TEXTILE BULLETIN

VOL. 61 JANUARY 15, 1942 NO. 10

JACOBS VERYBEST
REINFORCED AND CONVENTIONAL
HAIRON CHECK STRAPS

Now you can have check straps of any standard thickness or made to your specifications.

All Jacobs Check Straps are carefully inspected, calipered and sorted according to thickness—so you can have exactly the substance you want.

All Jacobs Check Straps are classified as follows:

	Reinforced	Conventional
+3/16"—all straps plump 3/16"	$1.70 per lb.	$1.65 per lb.
—¼"—all straps just under ¼"	1.80 " "	1.70 " "
¼"—all straps ¼" to plump ¼"	1.90 " "	1.80 " "
+¼"—all straps plump ¼"-5/16"	2.00 " "	1.90 " "

Delivery: immediate—Packed in 50 lb. cartons.

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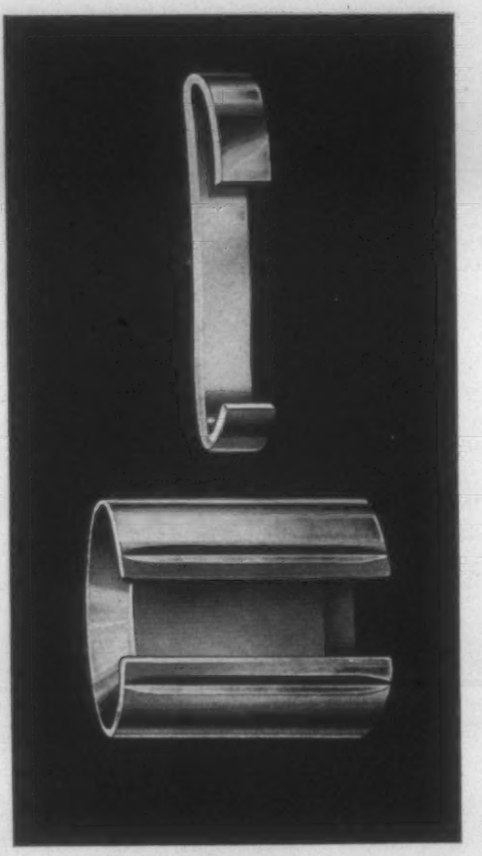
ESTABLISHED 1869
DANIELSON, CONN. CHARLOTTE, N. C.

ONE PROBLEM LESS
When You Change to "U. S."!



BEVEL EDGE

The Bowen Patented Bevel Edge feature of U. S. Ring Travelers produces ideally smooth, even yarn. There are no angular edges to flatten the end. There are no split ends in throwing rayon—no fly waste in the spinning and twisting of cotton, wool, worsted, asbestos, kindred fibres. Made and stocked in all sizes and weights, for all kinds and counts of yarns.

Textile manufacturers are afflicted with enough problems these days, without having to contend with Traveler Trouble.

That's why more and more spinners are changing to U. S. Ring Travelers.

From the experience of fellow manufacturers, they know that U. S. Travelers produce smooth, kink-free, uniform yarns of all kinds and that these Travelers wear longer because they are MADE to "TAKE IT" in the present-day battle for more and more production.

Sold under the trade names: Bowen Round Point Travelers; Bowen Square Point Travelers; Bowen Improved Vertical Bronze; Bowen Patented Bevel Edge; Bowen Patented Ne-Bow Vertical; Bowen Patented Vertical; Bowen Patented Vertical Offset; Bowen Flat Oval and Round Wire Travelers.

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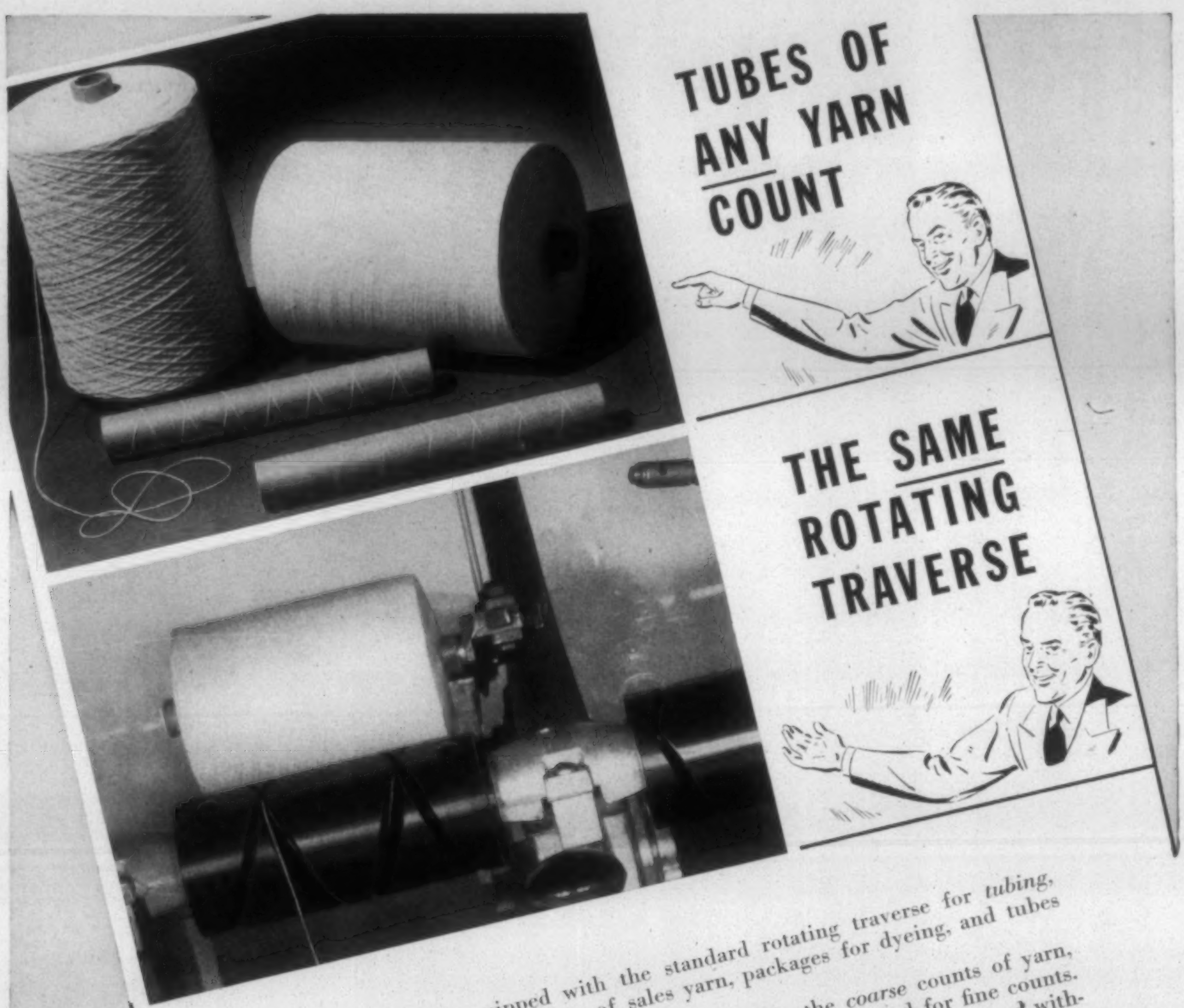
A Traveler for Every Fibre

Published Semi-Monthly by Clark Publishing Company, 218 W. Morehead St., Charlotte, N. C. Subscription $1.50 per year in advance. Entered as second-class mail matter March 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.



The Roto-Coner*, equipped with the standard rotating traverse for *tubing*, produces excellent parallel tubes of sales yarn, packages for dyeing, and tubes for the twister creel.

The grooves in the roll were designed to handle the *coarse* counts of yarn, which are the most difficult to wind, and this same roll is used for fine counts. Thus *all* counts are wound without adjustment of the traversing device and without necessitating a loss in speed.

Note in the top illustration that the number of winds at the start of *both* empty tubes is the same, although one tube has 12/2 ply yarn and the other 50/1. This *minimum* number of winds is standard for all tubing and will result in a saving in the time required to produce quality packages from a range of yarn counts.

See our catalog in TEXTILE YEARBOOK

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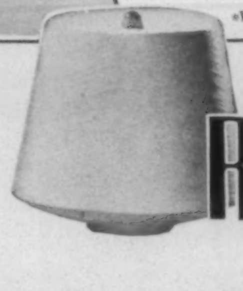

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How to Dampen Vibration on High-Speed Spinning Frames

THE "CORRECT" ANSWER TO A VITAL PROBLEM IN DEPENDABLE TEXTILE PRODUCTION:

Problem: Spindle vibration may result from several causes such as unbalanced packages, increased bolster clearances, poor tape splice and improper tape tension. When vibration is not adequately dampened, it results in excessive loss of power, wear, increased oil fog and leakage. That's why one of the chief problems of textile mill lubrication is to dampen vibration on high-speed spindles.

Answer: Gargoyle Velocite Oils were created to solve this problem. These oils bond so intimately with metal that their strong lubricating films resist rupture and effectively dampen vibration—even under the shock of impact loads.

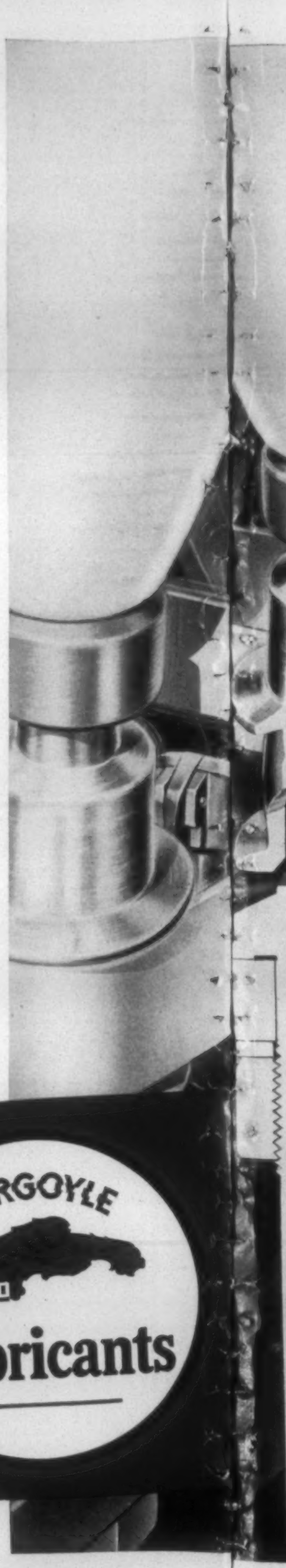
Because of their unusual lubricity and stability, these oils help minimize starting torque and running friction. This has resulted in substantial power savings. And since the strong, tenacious films of Velocite Oils resist rupture under vibration loads, they minimize wear and maintenance costs.

TO HELP MAINTAIN CAPACITY PRODUCTION, CALL IN

SOCONY-VACUUM for "Correct Lubrication"

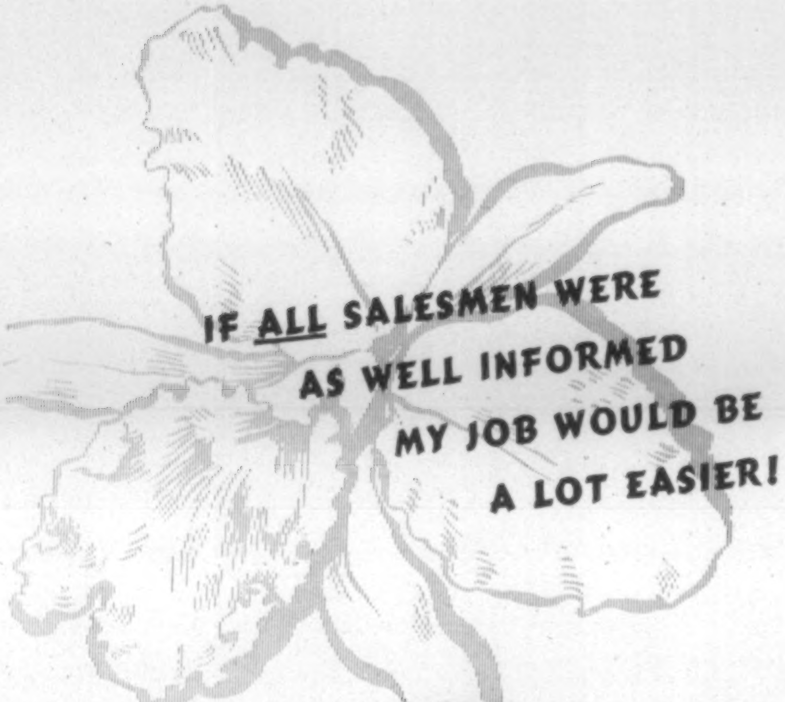
GARGOYLE
Lubricants

SOCONY-VACUUM OIL CO., INC.—Standard Oil of N. Y. Div.—White Star Div. Lubrite Div.—Chicago Div.—White Eagle Div.—Wadhams Div.—Southeastern Div. (Baltimore)—Magnolia Petroleum Company—General Petroleum Corporation of Calif.

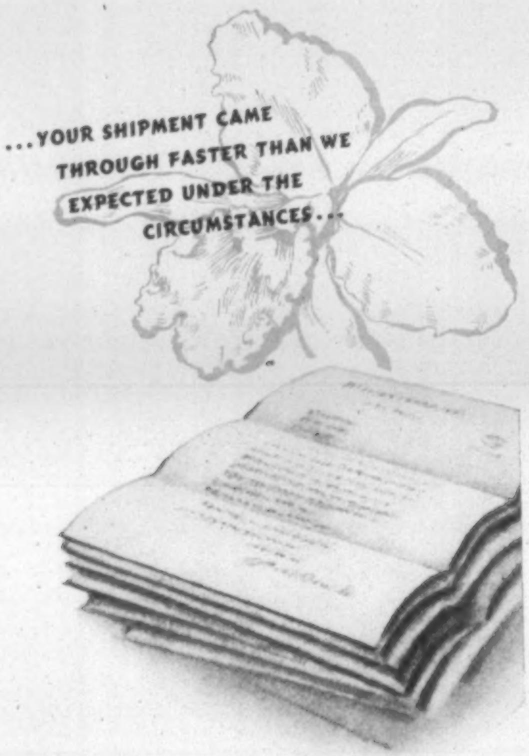


A STRONG FILM OF OIL HERE MEANS MINIMUM VIBRATION
THIS OIL MUST BE LIGHT-BODIED TO MINIMIZE POWER CONSUMPTION

ACTUAL USE of Gargoyle Velocite Oils by one large mill for more than 2 years showed 10% power saving, a doubling of oil life and decreased bolster wear.


IF ALL SALESMEN WERE
AS WELL INFORMED
MY JOB WOULD BE
A LOT EASIER!

WE CERTAINLY APPRECIATE THE INFORMATION... IT SHOWS YOUR INTEREST GOES BEYOND WHAT YOU CAN SELL US...


...YOUR SHIPMENT CAME THROUGH FASTER THAN WE EXPECTED UNDER THE CIRCUMSTANCES...

Yes, you want more than Lip Service today!

... and C & K is seeing that you get it. Never in our history have we received more expressions of appreciation than in recent months.

Our idea of service is to help keep your looms operating at peak efficiency. This means more than selling you an occasional part. It means serving you *constantly*... enabling us to study your problems and to apply improvements which we are continually making as the result of this kind of collaboration.

Few concerns are called upon to keep 15,000 items in stock. Large orders and limitations on materials make this task almost formidable. It takes planning... and closer cooperation to keep your looms mechanically right.

Some of your letters express surprise that we are so seldom "out of stock." The reason...? It's because we know your requirements intimately and can anticipate them to some extent.

In your own interests we suggest that you keep in touch with your C & K representative . . . it will help us serve you better.

Crompton & Knowles Loom Works

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BARBER-COLMAN
SYSTEM OF
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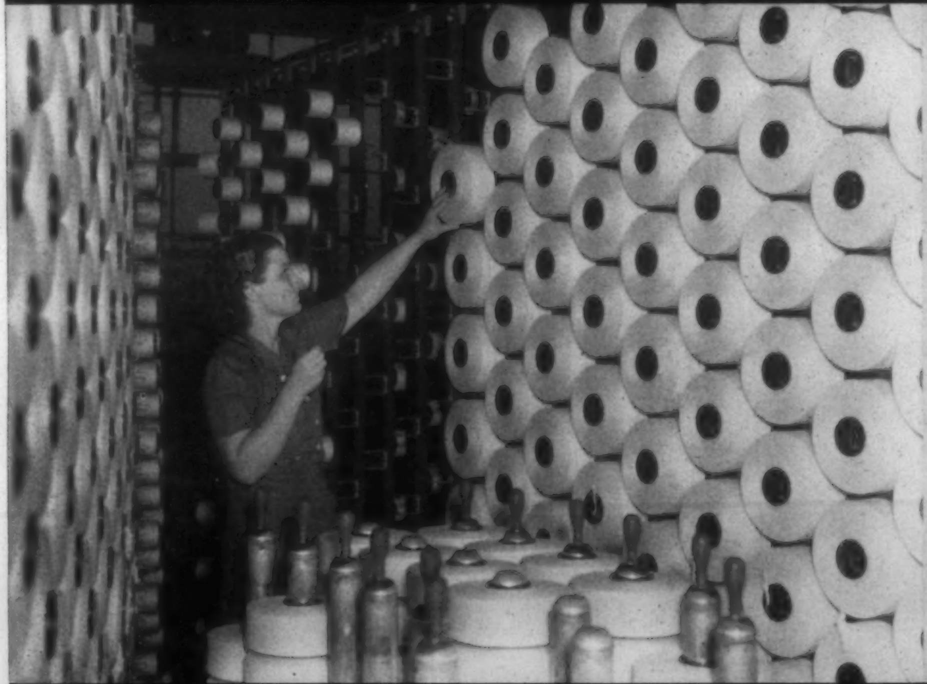
WARPING

TIME and EFFORT SAVED in CREELING

No Lifting Required in Handling Cheeses on Tridents
Creel Loaded on Inside While Running from Outside



Cheeses come to the transfer table on tridents holding 15 cheeses each. These tridents are simply slid onto the truck--no lifting is necessary. This truck is rolled to the inside of the creel, where loading, for either plain or striped beams, is quickly and easily accomplished at the same time that a beam is being run from the outside of the creel. The Barber-Colman system assures greater production with less effort.

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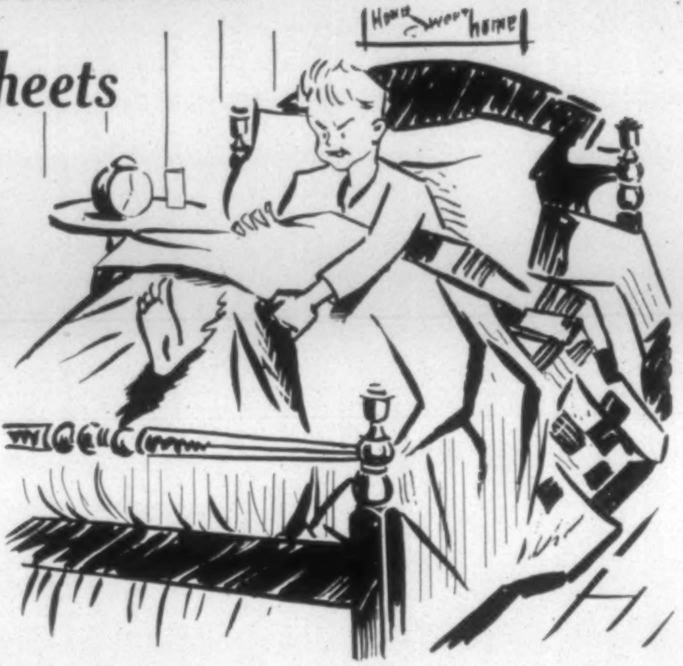
Do You Remember Those Old Time Sheets with the Seam Down the Middle



If you are 35 years old, you probably can remember your boyhood experience with two-strip sheets with seams down the middle how the seams opened up after a time and your toes caught in the slots, to your own discomfort and the dismay of your mother when the process of disengaging your trapped toes resulted in torn sheets.

Those sheets were made at home, from 40″ sheeting — a considerable product of our textile mills of those days.

Broad looms for weaving full-width sheets were built in the days of the common loom; but they were not numerous, nor were they efficient. Naturally their product was expensive and not generally used.

General adoption of full-width sheets as we know them today came with the appearance of the Draper L Model broad sheeting loom, which because of its ease of operation and greatly increased product per unit of labor put the price of broad sheets within the reach of the average housewife's purse.

The first Draper broad sheeting loom, our F Model, was brought out in May, 1899. It was not the success we had looked for, being little better, except for its automatic features, than the common looms then on the market.

After six long years of further experiment, we sold our first order of L Model looms in February 1905. Since then full-width sheets have come into common use in this country, and they have been almost universally made on L Model looms.

In 1934 we brought out a high speed L Model known as the XL. It brings further reduction in the cost of weaving full-width sheets.

DRAPER CORPORATION

Hopedale Massachusetts

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DEFENSE DRIVE

bans unnecessary lay-offs. Proper lubrication prevents forced shut-downs. For *TEXTILE MACHINERY* there are . . .

. . . SINCLAIR LILY WHITE OILS and NO-DRIP LUBRICANTS . . . oils that keep spindle hours up, power loss and temperature down . . . non-seeping lubricants especially adapted for top rolls. Details, including *knitting-machinery* oils, or lubrication counsel promptly obtained by writing nearest Sinclair office or Sinclair Refining Company, 630 Fifth Ave., New York, N. Y.

Write for "The Service Factor"—a free publication devoted to the solution of lubricating problems.

CARDING MACHINES *(Saco-Lowell) in Texas Textile Mills, Dallas. Sinclair lubricants used.*

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TEXTILE BULLETIN

MEMBER AUDIT BUREAU OF CIRCULATIONS

Vol. 61 January 15, 1942 No. 10

Cotton Fibre Testing Service

The Agricultural Marketing Service is now in a position to make a limited number of fiber and spinning tests for cotton mills, as well as cotton breeders. For further information see the Textile Bulletin of September 15, 1941, or write to the Agricultural Marketing Service, Washington, D. C.

VARIOUS tests available under the Cotton Fiber Testing Service are described herein in order to acquaint cotton breeders and others who may utilize the service with the methods employed in making the tests, and with the significance of the results. It is realized that many persons are not familiar with all the techniques used, and an effort has been made to make the descriptions as simple and non-technical as possible. The descriptions are also brief, many important features having been omitted wherever it was felt that their inclusion would not be essential to an understanding of the results obtained from the tests.

Because the proper preparation of samples submitted for tests is extremely important, a number of suggestions are given which it is believed may be helpful to those who wish to have tests made.

Suggestions Regarding Samples of Cotton To Be Submitted for Tests

The regulations covering this testing service specify that each sample of ginned lint submitted for fiber tests shall weigh approximately 8 ounces, and that each sample submitted for spinning and fiber tests, or for spinning tests alone, shall weigh not less than 5 pounds. The Department is prepared to make reliable tests on samples of these sizes. In cases where slightly more cotton is available for spinning tests, however, the speed and efficiency of the tests would be increased somewhat if 8 to 10 pounds of lint were made available to the laboratory.

Since the results of the fiber and spinning tests can be no more reliable than the samples themselves, each person submitting samples is urged to take every precaution to insure a representative, uniform sample. The seed cotton to be ginned should, of course, be selected to represent as nearly as possible a true cross-section of the test block for a particular variety or strain. A more uniform sample will be obtained if the seed cotton is thoroughly mixed before it is ginned. When the seed cotton is ginned on a small sample gin, it is important that the first and last part of the sample ginned not be included in the test sample. Moreover, in the case of saw ginning, if the quantity of seed cotton will permit, the gin should be operated a sufficient length of time to permit a seed roll to be built up before the actual material to be submitted for the tests is drawn.

Saw-ginned lint is preferred for tests of cotton shorter than 1⅜ inches in staple. Where only a roller gin is available, however, cotton ginned in this way will suffice, although it will not be possible to obtain an accurate grade designation on spinning test samples of short staple roller-ginned lint.

A more accurate picture of the potential quality of a cotton will be obtained if lint from an early picking only is submitted. A weather-damaged, discolored sample that has been exposed in the field will naturally give poorer results than a clean, white sample picked early in the season.

Sampling Methods At the Service Testing Laboratories

In view of the high degree of variability found for all the measurable properties of cotton within a bale or even within a small sample, it is very important that care be exercised in selecting the fibers which are actually to be tested. Otherwise the test specimens may not be truly representative, and a false impression will be obtained of the cotton being tested. To eliminate, insofar as possible, the effects of such variability in the Cotton Fiber Testing Service, representative specimens are assured by drawing 32 small tufts of cotton from as many different parts of the sample. Then, by a careful, standardized procedure, the fibers from the 32 tufts are thoroughly mixed by hand into a long strand or "sliver," from which portions are drawn for the various tests which may be made.

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*For additional information about the service, see "Promulgation of Regulations of the Secretary of Agriculture Governing Cotton Fiber and Spinning Tests under the Act of April 7, 1941." (Mimeographed.)

This method of sampling is carried out on every sample of cotton submitted to the department for fiber tests under the Cotton Service Testing Act.

Description of Fiber Tests

All tests, with the exception of the X-ray tests, are carried out under standard atmospheric conditions of 65 per cent relative humidity and 70 degrees F. Before the tests are made the samples are conditioned for at least 4 hours in this atmosphere.

Specimens for all the fiber tests except length as determined with the fibrograph are drawn from the mixed "sliver" previously described.

(1) *Fiber length array*: With the use of a Suter-Webb fiber sorter, the fibers in a 75-milligram specimen are combed and straightened, and one end of all the fibers placed in a straight line in the field of steel combs. Fibers are withdrawn from the other end of the tuft, are placed on velvet-covered boards in groups which are measured with a rule to the nearest ⅛ inch, and are weighed on a torsion balance. From these results, a "cumulative frequency curve" can be drawn on graph paper, showing the percentage, by weight, of all fibers longer than any given length.

In the laboratories of the Agricultural Marketing Service, it has been found that the following three measures, calculated from the length array data, are of importance: length at the 25 per cent point of the array, or "upper quartile" length; mean length; and coefficient of variation. The first of these is simply the fiber length at an arbitrarily selected point in the array. It is the length which is exceeded by 25 per cent, by weight, of the fibers in the sample. It is usually slightly longer than the staple length, and, from tests of more than 700 different samples of upland cotton included in the regional variety series has been found to have the following average relationship to staple length as determined by the classer:**

Classer's length (inches) $= .1942 + .7090 \times$ upper quartile length (inches).

The mean length obtained from an array is the average length of all the fibers determined from the weight-length data. It is somewhat less than the length at the 25 per cent point, and is used as a basis for the different measures of variability.

The coefficient of variation of fiber length, in per cent, is a measure of the variability or lack of uniformity of the fibers in a sample. It is obtained by dividing 100 times the standard deviation of length by the mean length. For saw-ginned American upland cotton the coefficient of variation of length usually falls between about 22 and 32 per cent, averaging about 27 per cent. A coefficient below 22 per cent would indicate very uniform cotton; above 32 per cent, irregular cotton.

Differences in upper quartile length greater than about 0.025 inch may be considered to be significant when the averages of 3 tests per sample are used. In other words, because of the variability of cotton, and the normal errors of even the most careful sorting technique, a difference of 0.025 inch or less might be expected from different arrays made from the same sample of cotton; but a difference greater than this amount almost certainly indicates a real difference between two samples of cotton.

(2) *Fiber Length, Fibrograph*: The specimen of cotton to be measured is prepared by placing from 300 to 400 milligrams of cotton drawn from several different parts of the sample, on one of a pair of combs, and then mixing and straightening the fibers by combing them from one comb to the other. The two combs with their fringes of straightened fibers are then placed in a Hertel fibrograph. A beam of light, passing through a slit, is directed through the fringe, beginning with the densest part and gradually moving toward the outer edge composed of the ends of the longest fibers. The light which is allowed to pass through the fringe is picked up by a photo-electric cell, and the electric voltage thus generated is indicated by a galvanometer. By means of a recording pen, a continuous curve is drawn by the instrument on a record card, showing the change in the amount of light transmitted through the fringe of cotton fibers as the slit passes over different portions. Information regarding the fiber length distribution of the cotton is then obtained by analyzing the curve on the record card.

In routine testing, two measures are obtained from the card: the mean fiber length, and the "upper half mean" length, which is the average length of all fibers longer than the mean. The upper half mean has been found to be closely correlated with the classer's designation of the staple length. From the following empirical equation the classer's length can be estimated from the upper half mean (see footnote 2):

Classer's length (inches) $= .238 + .823 \times$ upper half mean (inches).

By dividing the mean fiber length by the upper half mean and expressing the quotient in per cent, a practical measure of the variability of the fibers in the sample is obtained. This measure of uniformity will average about 76 per cent for saw-ginned American upland cotton. If the value is 69 per cent or less,it may be considered as an indication of irregular cotton; if 83 per cent or above, the cotton is exceptionally uniform.

Pending further studies, a difference of 0.025 inches or more between two upper half means obtained from three tests each may be considered significant. (See remarks concerning the precision of fiber array data.)

(3) *Fiber Strength* (*Round Bundle Method*): This test, also known as the Chandler bundle test, involves the preparation and testing of 10 specimens in the following manner: In accordance with a standardized procedure a representative sample of cotton weighing from 50 to 75 milligrams is combed and prepared into a small tuft. This tuft is placed in a wrapping device and wrapped with sewing thread of known diameter, under a known tension. The length of thread in 10 wraps is measured as it is wound, and from this length the cross sectional area of the bundle is determined. After conditioning, the bundle is gripped by steel jaws, placed in a testing machine, and broken. From the load required to break the bundle of fibers, and the area of cross section of the bundle, the tensile strength expressed in thousands of pounds per square

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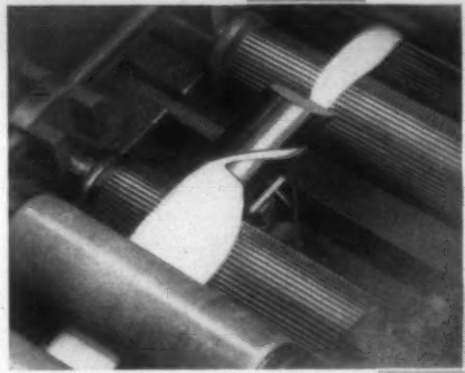
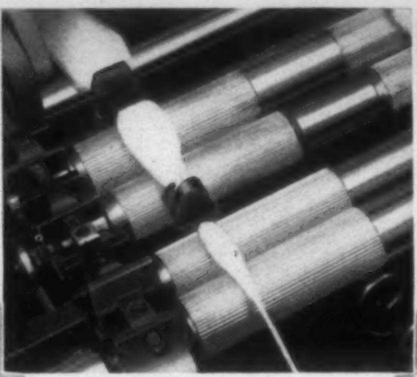
**This empirical equation and others to be presented in the following pages, as well as the established "benchmarks" for evaluating the various measurements, are subject to change as more data are accumulated and analyzed.

Victory Requires

- ✓ INCREASED PRODUCTION
- ✓ CONSERVATION OF RESOURCES
- ✓ LOW OPERATING COSTS



5-Roll High-Draft Roving System
with Patented Scroll Condenser



4-Roll High-Draft Roving System
with Patented Scroll Condenser

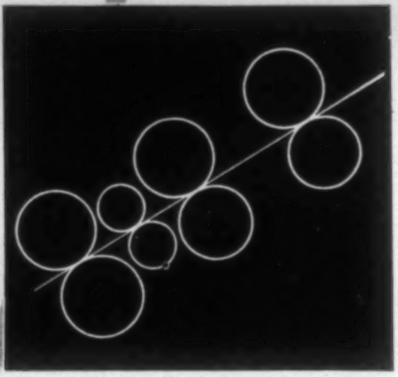


Diagram of 4 Roll High-Draft Spinning

How H & B High-Draft Roving and Spinning Can Help you Attain All Three Objectives

INCREASED PRODUCTION. If you can't get new machinery you can greatly increase the efficiency of your old conventional roving and spinning frames by equipping them for H & B High-Draft Roving and H & B Four Roll High-Draft Spinning. These two systems are adaptable to any standard make of frame. The cost of changing over is surprisingly low, because of the simplicity of design.

CONSERVATION. Important savings in power can be made by changing over to H & B High-Draft Roving and Spinning, because of the great reduction in spindles required for a given production.

LOW OPERATING COST. The simplicity of both systems contributes to low maintenance and upkeep as well as low production costs. Having no belts, they are easy to clean, easy to operate and readily adjusted.

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Textile Mill Machinery
PLANT AT PAWTUCKET, R. I.

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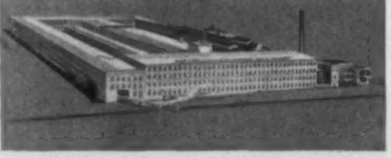

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inch is calculated. The average strength of 10 bundles is taken as the strength of a particular cotton.

Over a wide range of staple lengths, from very short upland cotton to extra staple Sea Island, it has been found that the tensile strength of cotton fibers ranges from about 50,000 to about 110,000 pounds per square inch. Based on tests of more than 700 samples of upland cotton from the department's regional variety series, it may be said that 80,000 pounds per square inch is the average strength of American upland cotton. A strength of 85,000 pounds may be said to be very good, and 90,000 pounds or more, excellent. A strength of 75,000 pounds would be considered fair, and 70,000 pounds or less, poor. A difference of 3,000 pounds or more between the averages of 10 breaks for two cottons may be considered significant.

Fiber strength is rather highly correlated with yarn, cord and fabric strength; and for materials such as tire cord, sewing thread and all mechanical fabrics in which high strength is important, it is essential that cottons of higher fiber strength be employed.

(4) *Fiber Strength (Flat Bundle Method)*: The machine on which this test is made is known as the Pressley cotton fiber strength tester. A small tuft is prepared by manipulating and combing a representative specimen drawn from the hand mixed sliver and conditioned for at least 4 hours before testing. From this tuft, small ribbons of fibers are drawn and combed, each ribbon being about ½ inch wide and containing roughly 1,000 fibers. A ribbon is placed in a small pair of clamps, and the ends of the fibers sheared so that the length of the fibers is equal to the thickness of the clamps, or slightly less than ½ inch. The clamps are placed in the tester, and a load applied by allowing a weight to roll down a balance arm on the tester. When the fibers have been broken, the strength is read directly from the balance arm. The clamps are then removed and opened, and the broken ribbon is weighed on a torsion balance.

The quotient obtained by dividing the breaking load by the weight of the ribbon is taken as the strength index. This index usually ranges between 5.0 or less to 10.0 or slightly higher.

The variability of flat bundle strength indexes from a particular cotton has been found to average relatively about the same as that for 10 Chandler strength bundles. For that reason, 10 breaks are made in using the flat bundle method. From tests of more than 100 different cottons, the following conversion formula has been developed (see footnote 2):

Estimated round bundle strength (in thousandths of pounds per square inch) = 10.8116 × flat bundle strength index — .1200.

In view of the extensive data that have been published on fiber strength as determined by the round bundle or Chandler method, it is recommended that the strength indexes obtained with the flat bundle method be converted to round bundle strength. (The remarks pertaining to the round bundle strengths, presented in the previous section, are thus applicable to the results obtained with the flat bundle test).

(5) *Fiber Fineness (Weight per inch) and Maturity*: In making these tests a fiber length array is first prepared. For the fineness test, 100 fibers are then drawn from each length group, and weighed. The average weight per inch of fiber in the cotton, in terms of micrograms (1/1000 of milligrams) is obtained by weighting the data for the different length groups in proportion to their relative weights in the array.

The fineness of cotton has been found to range from as low as about 2.0 micrograms per inch for the finest Sea Island to 12.0 micrograms or more for the coarsest Indian cotton. Most American upland cottons of normal maturity will fall between 3.5 and 6.0 micrograms per inch. A value of below about 4.0 micrograms indicates that the cotton is fine-fibered; above about 5.2 micrograms, that it is coarse-fibered.

Fineness is usually, but not always, inversely proportioned to length. That is, longer stapled cottons are usually finer fibered than shorter stapled cottons. Occasionally a long fibered but fairly coarse cotton is found, but this may be considered the exception rather than the rule. Other things being equal, a finer fibered cotton possesses a higher spinning quality than a coarser cotton. There is a definite place, however, for many of the coarser cottons, as in some types of manufactured products a "harsh" feel, evidently associated with the coarseness of the fibers, is highly desirable.

A false impression of inherent fineness is frequently imparted by highly immature cottons, and for this reason a measure of immaturity is almost a necessity in evaluating cottons on the basis of their fiber weight-fineness. Immaturity tests are made in the department's service testing laboratories in the following manner:

A microscope slide is prepared for each length group in a fiber array by placing somewhat more than 100 fibers on a slide with a cover glass, and "mercerizing" or swelling them by adding a few drops of 18 per cent caustic soda solution. The slide is examined with a microscope, and the number of thin-walled or immature fibers determined by inspection and counting. A swollen fiber is considered to be thin-walled or immature if its wall thickness is less than one-half the width of the lumen, or cavity within the fiber. The weighted average immaturity count is obtained from the counts of the different length groups in an array.

An average of about 27 per cent immature fibers has been obtained from more than 700 cottons included in the regional variety series. A cotton with 22 per cent, or fewer, thin-walled fibers may be considered highly mature; from 22 plus to 32 per cent, normal; and above 32 per cent, immature.

To some extent "maturity" appears to be a varietal characteristic, but in general, immaturity counts of 38 to 40 per cent or above almost certainly indicate a prematurely retarded fiber development, as caused by drought, frost, weevil damage, etc.

(6) *Fiber Fineness (Cross Section Method)*: In this test a very thin cross section is prepared by hand with the use of a modified Hardy type microtome, the fibers first being inserted in the device and treated with a special colodion preparation. The section is placed on a glass slide, and a photomicrograph of 250 diameters is made. A 4X photographic enlargement then provides a picture of the cross sections of the fibers, magnified 1,000 diameters. Measurements are then made of 100 fibers selected at random from each of two areas on the enlargement. From these measurements, the average "diameter" in

(*Continued on Page 52*)

MAY all things in your New Year have the "sparkle" and freshness of newly fallen snow. The present turmoil is history repeating itself, out of which shall be born days based on goodness and righteousness ✶ Let's all do our part to bring a contentment and happiness that shall endure ✶ We here in this neck of Uncle Sam's woods—"Good Old New England"—wish one and all good fellowship and good will.

HOWARD BROS. MFG. CO.

Harry C. Coley.

President

Bumper and Check-Strap Hints

By H. E. Wenrich

Part I

SYNOPSIS

Leather is an important material needed for national defense. It is likewise an important material needed for industrial purposes. By following the suggestions in this article, fixers can aid the national defense program by drastically reducing the use of new leathers in their daily taks. Start now, before the need is necessary to conserve this vital material—by doing so, the economical efficiency of the weave-room will be increased.

THAT old wheeze, "leather is leather," is a rarely heard saying in the modern weaving mill. Foremen and fixers have long discovered that many grades of leather, under many different brands, are available for the most discriminating task. For some duties, the best leathers obtainable should be used, while certain jobs may require nothing more than second-grade or used strapping.

Leather selection for each job requires careful consideration. Is the job a "pound" or a "pull" job? What punishment must the item take? Should the leather be soft, medium or hard? Width, thickness and length? These and many other questions are daily answered in every weave shed. And the fixer especially, who can visualize and put into practice worthwhile suggestions or ideas, is the one who becomes a valued man to his employer.

A striking example of waste is the placing of new check straps, cut into short lengths, for the bottom of the picker stick. A further example of wasted time and materials is the placing of old belting and strapping into service as bumper straps. Both of these examples (you have undoubtedly seen many more) are real practices found in numerous weave rooms with little regard as to the consequential results in damaged cloth and loom breakdowns. Damaged cloth and loom breakdowns are costly items that must be overcome, and so is the high cost of strapping in the course of weave-room operation. This high cost can mount to terrific figures in cloth-yard calculations if left to run wild, as can be shown by the variation in price-per-yard between a plant whose cost is high, and one whose cost is lowered due to the fixers' methods. Cost per yard? Well, it's no longer a matter of clearing several "cents" per yard—if a fraction of a cent is cleared, that's big business. And utilizing every scrap of strapping that is possible—within reason—certainly helps to clear that fraction of a cent per yard.

In fact, many ideas have been incorporated within textile plants to bring the cost of leather down, and in order to make fraction-of-a-cent savings. And along this line, substitution of leather became an important development which gradually changed to the manufacturing of materials that withstood severe punishment even better than leather. These substitutes have proven advantageous in functioning properly and giving long service on the loom under the most trying conditions before necessitating replacement. Such substitutes which have become standard items in the plant are chiefly made from canvas and rubberized combinations. These items come under many grades and different brands and the writer will not endeavor to classify the various brands, but from time to time mention will be made of certain items substituting leather which is worthy of mentioning, as actual experience under standard use has shown the value of such items.

Bumper Straps

Bumper straps are necessary on the loom to stop the forward movement of the picking stick slightly after the stroke of the pick has been made. This proves a simple yet effective method of giving the shuttle a certain amount of propulsion without piling on additional pick by lowering the power strap or by other means. However, once the best position for the bumper strap has been arrived at and the strap is holding up satisfactorily, it is unwise to change or alter the strap to new positions or lengths. For in doing so, the forward sweep of the stick will be altered, creating new problems to contend with. These problems include broken picks, dirty filling yarn, loops, bang-offs, sloughed-off filling yarn and many others.

The question may arise in your mind as to what constitutes a good bumper strap. This would be a difficult question to answer off-hand, providing one definite type or band strap was to be chosen as the "best." One type of strap may prove superior to another when used on a certain loom model, whereas on a different loom model just the opposite may prove true. To arrive at a satisfactory conclusion, a test on various types and brands would prove an interesting method of selecting the right strap for the particular job. From long years of actual experience, the writer's first-hand contact with tests and selection through trial and error should prove somewhat helpful.

GET THEE BEHIND ME, SATAN!

SURE, it's a temptation, during these times when we can't even produce enough yarn to satisfy the market's requirements—it's a temptation to cut out all activities not directly connected with the production of rayon yarn and fiber and abandon fiber research, fabric development, mill technique, and sales assistance.

But no, we're not going to discontinue any of those services which you've come to associate with American Viscose Corporation. If anything, we're stepping up our service facilities, expanding our research and development work, so that we may be of even greater value to you in the future. And if you'll just pause from your worries about war, prices, shortages, and inflation, we think you'll agree this is a sound policy.

During these troublous times, our research men will be marching steadily ahead, delving into the ideas that will be tomorrow's new fabrics and new production methods. And when conditions return to normal, they'll be ready to give you just the help you need. You'll be thankful then, that we are continuing our research now!

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Notice the strap application on the picker rod (Figure 1) as used on a well-known multiple-shuttle loom. This same type application is also used on certain model, high-speed, single-box automatics. This is what is known as a 4-hole, box-side bumper strap. The same type strap can be had in various lengths with four holes. It can also be had in 2-hole, 3-hole and up to 6-hole—single, two, three or four-ply, as well as reinforced. It seems to be merely a matter of taking your pick and let the fixer worry about the trouble if any trouble arises in the weave shed.

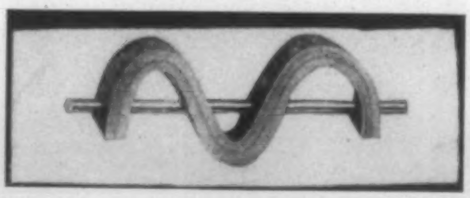


Fig. 1

And trouble will arise in the weave shed if wrong selections are made. It likewise will arise if wrong application on the spindle rod is made. The method used as shown in Figure 1, in placing the strapping onto the rod, causes the strap to be too lengthy. This causes the loom to bang off frequently when picking from that particular side. Many fixers, on watching the movement of the picker block and forward movement of the stick, term the retarding action of the movement as the strap is compressed as a "dead" pick. A "dead" pick is also the action which takes place when the bumper is worn or the life is removed, causing it to stay compressed at all times. What is needed in the majority of cases on this spindle-rod type is a compact strap with plenty of life that will compress with a certain amount of resistance the millions of times required during its life of usefulness.

On this particular application, when the picker contacts the bumper strap, there is too much time required to compress the strap between the first contact and final or full compression has been completed. This results in loss of power, resulting in loom bang-offs. A far better method of 4-hole application is shown in Figure 2. You not only have a more compact unit but better resistance on compression. As compression is shorter but resistance greater, a snappier action is obtained, which is ideal for the purpose.

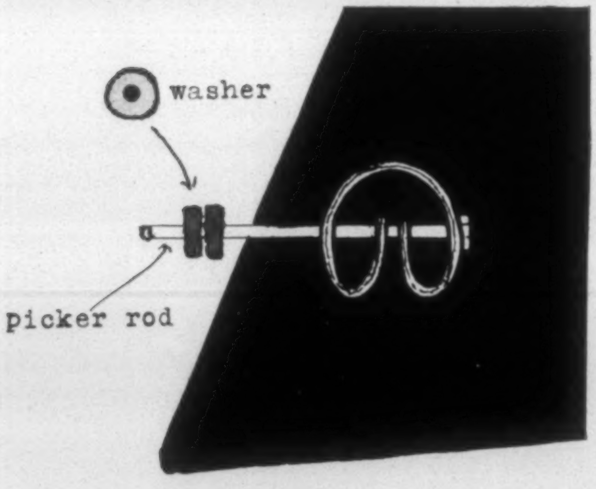


Fig. 2

At times, compression can be so lessened that there is hardly any compression at all. This condition arises when the bumper strap has become lifeless and flexibility has vanished. Such a strap can be readily noticed by a fixer passing the loom and a fixer's sense of hearing likewise advises when a change is necessary. So here we have two warning signals for future trouble—first, seeing; second, hearing.

In the first, the strap is noticed to be compressed tightly together as a single unit, failing to spring back to its original position as when first placed on the picker-rod spindle. In the second, the sound of the stick slapping harshly as the picker strikes the "dead" strap is quite audible on every pick from that particular side. To withstand unbelievable pounding and strain, a strap for the spindle-type bumper must have as its greatest feature extreme flexibility. Soft leather or substitutes that fail to flex back after every pick after a few days punishment are practically useless. Hard leathers or substitutes that soon crack and deteriorate through pulverization, likewise prove useless. Between these two extremes, there are available for every speed and loom model an ideal leather or substitute that will prove its superiority. And obviously, when a fixer notices useless straps on the loom he should plan to make a replacement as soon as time permits.

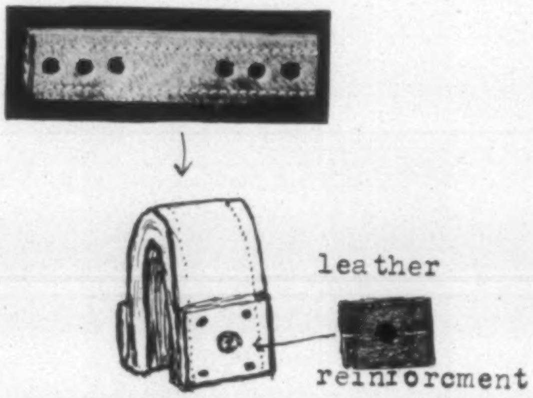
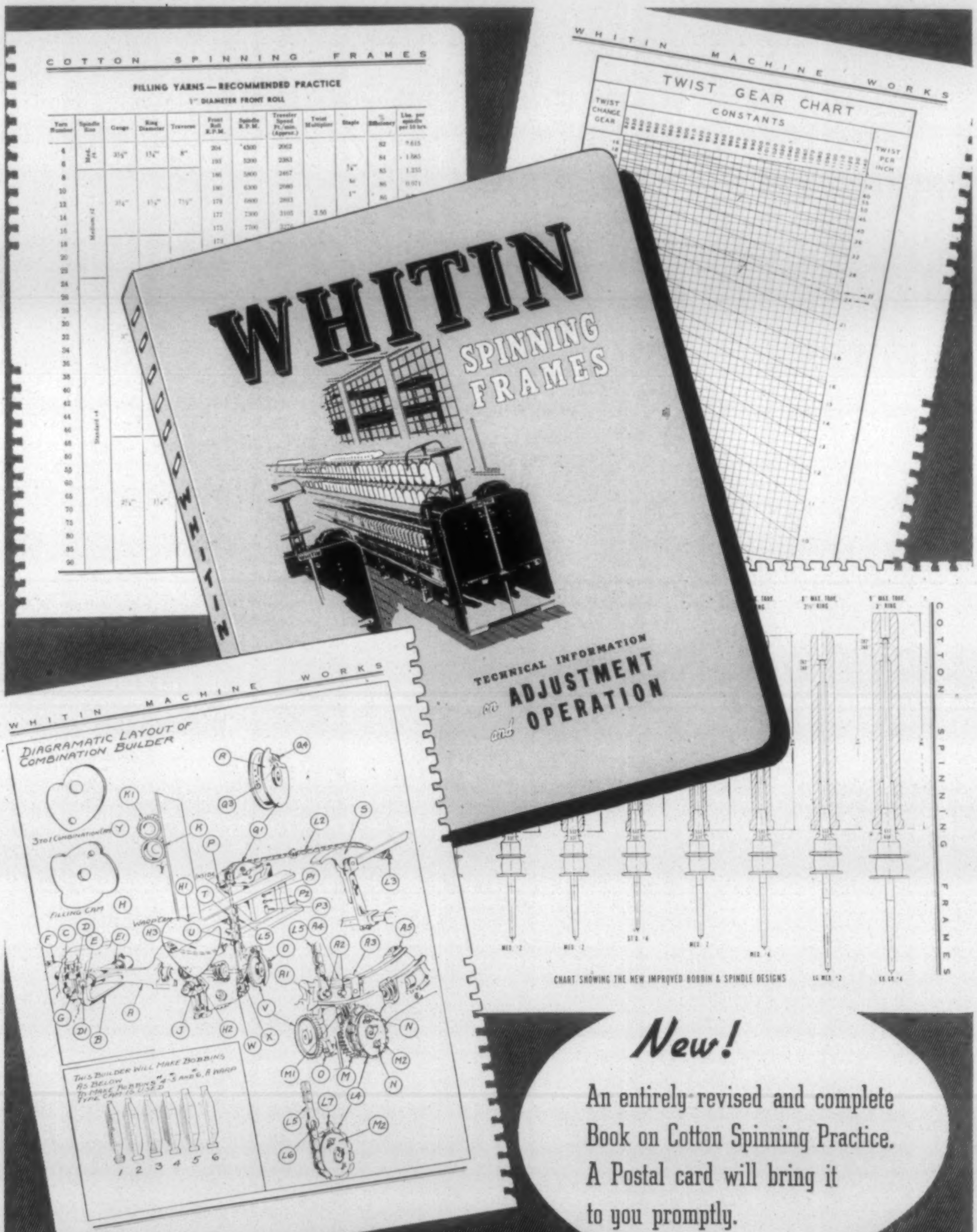


Fig. 3
2-ply 2-hole strap reinforced on each end with extra ply.

Going into the merits of several different spindle-type bumper straps, mention is herewith made of an excellent strap suitable for loom speeds up to 152 P.P.M. This strap is a 2-hole strap, cut diameter-wise from discarded tire casings with the outer tread removed. The cost of these straps, as compared to leather, is about one-fourth to one-half, making an attractive price consideration. Additional reinforcing of the picker-rod holes have prolonged the life of these straps, but the bad feature of this extra reinforcement lies in the method of attachment. Short rivets or generally small bolts are utilized for the purpose. In time, the rivets or bolts work loose, causing trouble from this source. And, of course, after the substitute strap has been discarded they are usually thrown away.

Another 2-hole strap finding fair use in some mills is the all-rubber strap. With this strap, an unusual objec-

(*Continued on Page 25*)



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Stroboscope Inspection Equipment for Cloth-Printing Machines

By A. P. MANSFIELD
Industrial Engineering Department
General Electric Company

THE art of printing cloth with many colors in a great profusion of designs has been largely standardized for the past fifty years. Cloth printing speeds rarely exceeding 85 yd. per min. have been employed. Recently, however, with the development of new inks, improvements in the printing machines and drying equipment, cloth speeds have been materially increased with speeds of several hundred yards per minute now under construction.

Below 100 yd. per min., a highly skilled operator with long experience can usually check the registration of colors in the printed designs without too serious errors; but, as the speed increases, errors in register become increasingly difficult to detect. This is particularly true as the design becomes more complex and the number of colors increases. Even the trained eye of the printer becomes overtaxed and help is needed if high speed is to be maintained. Also, at higher cloth speeds, imperfections, flaws, etc., become increasingly difficult to detect.

Stroboscope Scanning

The stroboscope described in this article was developed to aid in making detections at high speeds by "stilling" the pattern. This is accomplished by synchronizing high-intensity light flashes with the moving pattern and making the duration of each flash so short that there is no perceptible movement of the cloth during the flash.

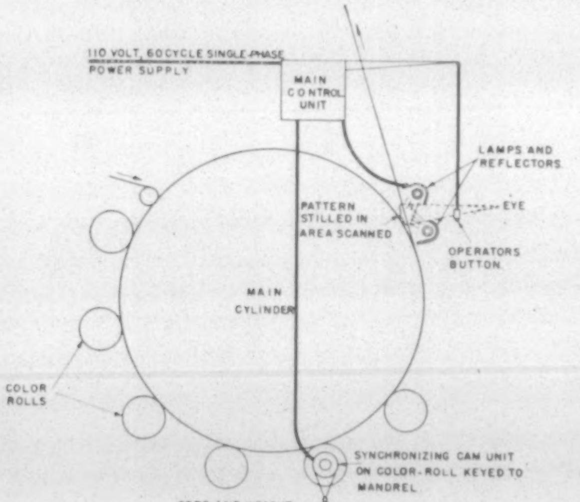

110 VOLT, 60 CYCLE SINGLE-PHASE POWER SUPPLY
MAIN CONTROL UNIT
LAMPS AND REFLECTORS
PATTERN STILLED IN AREA SCANNED
EYE
OPERATORS BUTTON
MAIN CYLINDER
COLOR ROLLS
SYNCHRONIZING CAM UNIT ON COLOR-ROLL KEYED TO MANDREL
CORD AND WEIGHT HOLDING STATIONARY PORTION OF UNIT (PROVIDES PATTERN POSITION ADJUSTMENT)

Fig. 1. Stroboscope scanning equipment applied to a cloth-printing machine

In a cloth printing machine, a single engraved roll is used for each color and as many as fourteen of these may be used in a multi-colored design. These rolls are mounted about the periphery of the main cylinder as indicated in Fig. 1.

The full circumference of the engraved roll may be used for a single pattern or it may be divided into several patterns. All rolls are driven through individual pinions by a single spur gear and provisions are made for adjusting color register, axially and circumferentially, between the pinions and the rolls.

The printing speed is adjusted to some nominal value to suit the cloth and design, but the range varies considerably. Also, it has to be "built up" gradually to the maximum or operating value. The stroboscope must be synchronized with the pattern repeats at all times.

Conventional stroboscopic devices are not suitable for this application because of limitations in:

(a) Quantity of light. (Would illuminate only small areas.)

(b) Characteristics of light. (Not suitable to distinguish colors and boundaries between them.)

(c) Intensity of light. (Insufficient to provide suitable illumination to make pattern visible.)

The lamps previously required are expensive, have short life, and are not readily obtainable. Also, the controls are not readily adapted to automatic synchronization with the cloth patterns over the wide operating speed ranges.

New Stroboscopic Lamp Equipment

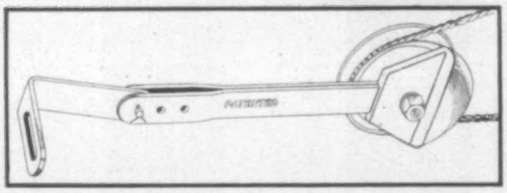
In considering the development of a new device for this application, which must necessarily operate a large percentage of the time, major consideration was given to obtaining a lamp which has suitable characteristics, with good life and yet readily obtainable from electrical supply stores at a reasonable price. Extensive tests showed the blue fluorescent Mazda lamp to have proper characteristics of life and color under the special operating conditions of the stroboscope.

The lamps are mounted in standard industrial reflectors, in which the sockets have been specially insulated

"SH-H-H!

—these sketches
tell a secret of

SAVINGS"

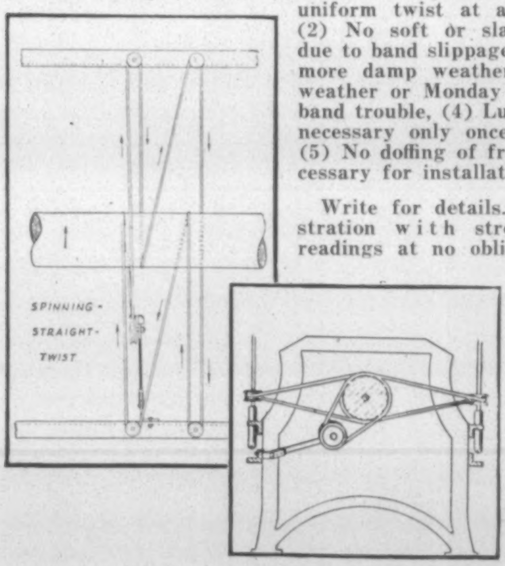


It's a secret scores of cost-conscious mill executives and overseers already have discovered—that it is possible to get a uniform spindle speed and higher quality yarn on their old frames without having to buy new tape drives. How?—with the installation of Meadows Tension Pulleys.

These sturdily built pulleys are equipped exclusively with M-R-C Lubri-Seal Ball Bearings, fully protected against dirt and lint. Ease of installation is shown in lower diagram—only one hole need be drilled through spindle ladder on bottom rail to install one pulley for every four spindles.

Prelubricated and guaranteed for one year, Meadows Tension Pulleys insure (1) Uniform spindle speed . . uniform twist at all times, (2) No soft or slack yarn due to band slippage, (3) No more damp weather or dry weather or Monday morning band trouble, (4) Lubrication necessary only once a year, (5) No doffing of frames necessary for installation.

Write for details. Demonstration with stroboscopic readings at no obligation.



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as shown in Fig. 2. The lamps are operated without preheat by applying a peak of 7,000 volts. The assembly of the lamps is mounted on a printing machine in the position in Fig. 1.

Control

The control takes power from a 115-volt 60-cycle source and utilizes suitable transformers, capacitors, electronic tubes, etc., to form a resonant circuit. The circuit was developed to meet the characteristics of this lamp and incorporates the following features:

(1) High instantaneous output; approximately 60 amp. at 6,000 volts. (This indicates the energy put into a single flash of the lamp.)

(2) Very short duration of flash; approximately 30 microseconds. (This value includes the lamp characteristic in combination with that of the control.)

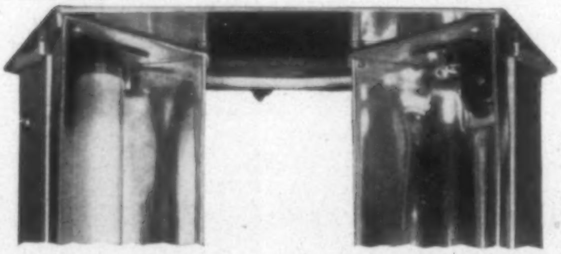


Fig. 2. Blue fluorescent tubes in standard industrial reflectors with sockets designed for 7,000 volts supply illuminate the cloth pattern under inspection

(3) Maximum frequency of flashes sufficiently high to provide adequate illumination of pattern. (This is determined by the rate at which the condensers may be fully charged. The actual frequency of the flashes must, of course, coincide with that of the pattern repeats.)

The flashes in the stroboscopic lamp are synchronized with the patterns on the color rolls by means of a con-

The control assembled in enclosing case is shown in Fig. 3.

tacting cam (Fig. 4) mounted on the mandrel of the color roll, as shown in Fig. 5. Twenty-three of these cams are required to meet the range of patterns usually encountered in the printing industry.

The contacts on the rotating cam have the same angular spacing as the patterns on the color roll and rotate in unison with them. The stationary contacts are mounted on a disk which can be turned so as to locate, by timing the flash, the illumination on any desired portion of the pattern. The friction of the weighted cord serves to hold the disk stationary. Closing of the contacts completes the grid circuit in the thyratron tube causing it to "fire" and flash the lamps.

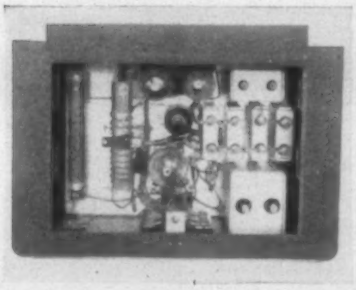
Manual control or intermittent operation is provided through a pendent switch within convenient reach of the printer as in Fig. 5.

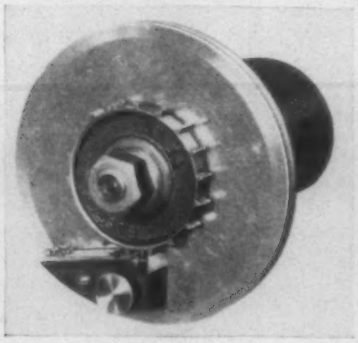
As previously stated, the stroboscope was developed for high-speed printing, where the number of pattern repeats is ordinarily greater than fifteen per second. At lower speeds there would be an objectionable flicker.

The flicker will depend largely on the frequency of flashes, which in turn will depend on the number of pattern repeats and the speed of the cloth.

With a speed as low as 100 yds. per minute, the flicker will begin to become objectionable as the pattern exceeds four inches in length. At higher speeds, the flicker disappears and the pattern is stilled with distinct visibility up to 450 yd. per minute.

For extremely low frequencies of pattern repeats, single flashes, or those repeated by manual control at intervals sufficiently frequent to prolong the image, yet too slow to produce flickers, have been found to help materially in checking register.





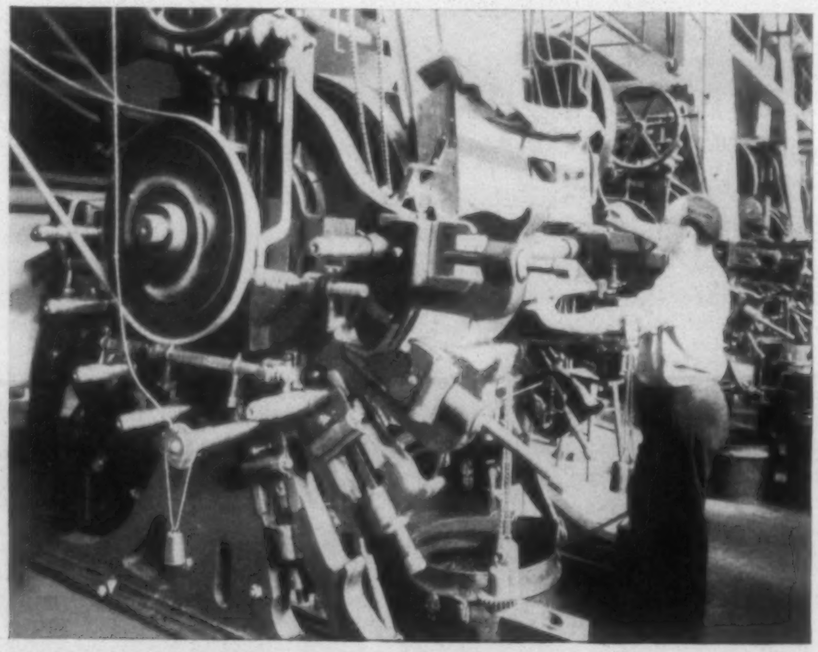
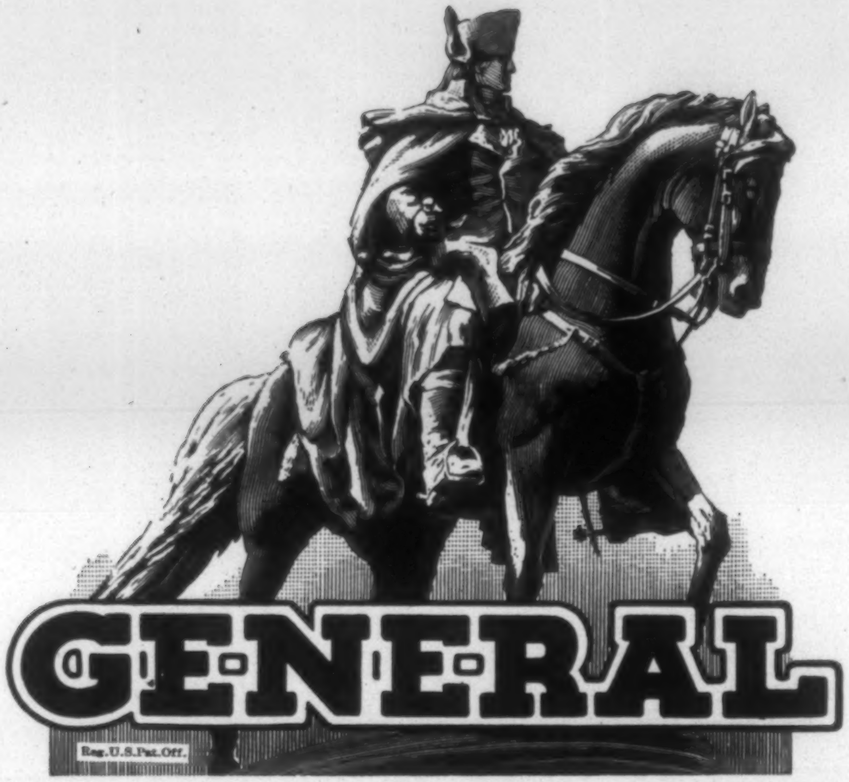


Fig. 3 (upper left). Power for the stroboscopic lighting is applied through a compact electronic control circuit. Fig. 4 (lower left). A contact mechanism placed on a color roll spindle synchronizes the flashes of light with the repeats of the pattern on the moving material. Fig. 5 (right). Stroboscope scanning equipment on a cloth-printing machine. When hand controlled, the equipment provides intermittent operation extremely useful at low speeds and for checking register.

PERHAPS THE FUTURE LOOKS DARK.

BUT REMEMBER that it is not dark with doubt or confusion, but dark simply because we have a great number of difficult things to do quickly. ¶When you look beyond these clouds, the future is bright. This dark hour is but an incident in the history of a great people determined at all costs to be forever free. DONALD M. NELSON IN THE AMERICAN MAGAZINE

GENERAL DYESTUFF CORPORATION



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The Erie Plan of Industrial Conservation

FOLLOWING is an outline of the plan of industrial conservation which was worked out and put into effect by leading manufacturing interests of Erie, Pa., and which has the full endorsement and approval of the Office of Production Management Bureau of Industrial Conservation. The plan was designed to secure the active participation of industry in the matter of the conservation of raw materials and the full utilization of scrap and by-products, surplus materials and parts, including the scrapping of obsolete machinery. It has produced excellent results.

I. Leading executives of the city's large and small industries, and trade and business associations,* attended an organization meeting, and set up an *executive committee* from within the members of their own group.

II. The *executive committee* established a *sub-executive committee*, by selecting and securing the services of other executives engaged in the manufacture of products containing critical commodities, to-wit:

A. Iron and steel scrap.
B. Non-ferrous metals (brass, copper, aluminum, lead and zinc).
C. Waste paper.
D. Scrap rubber.
E. Cotton and woolen rags.
F. Miscellaneous products.

III. The *executive committee* and the *sub-executive committee*, working together, set up a program of aims and objectives as follows:

A. Wrecking of abandoned and obsolete machinery and equipment.
B. Speed the return of scrap and waste materials through existing channels to mills and refineries.
C. Utilization of all critical materials to the best advantage.
D. Minimize waste and spoilage.
E. Selective handling and segregation of scrap and overage at the source.
F. Avoidance of contamination.
G. Reuse, wherever possible, of blanks, cut downs, short ends, clippings, etc.

IV. To carry out these aims and objectives the executive committees set up the following *salvage procedure* and *methods*:

A. Arranged in every plant for the appointment of a "Salvage Department Manager," or for the delegation of some one individual in each plant to be responsible for the wrecking of obsolete machinery, equipment, etc.

B. Arranged to train men, if necessary, in the definition of scrap, its nature, its handling and its salvage.

(Note: Small concerns were able to allot a man part time only, or assign a man for full time only during the period of the initial clean-up campaign. Larger operations required the full-time work of one or more men, to continue indefinitely.)

C. Arranged for a system of periodic reports on scrap collected to be made by every plant, to the *executive committee*.

(Note: Weekly reports were considered best, at least during the first several weeks of the initial campaign.)

V. The individual "Salvage Managers" in the various plants designated their own plant and departmental salvage committees, system of handling, procedure, reporting, etc.

A. The salvage managers group arranged in their own plants the proper system to be followed in the matter of wrecking obsolete machinery, disposing of out-of-date or discontinued finished products and other stored materials not likely to be used in the immediate future.

B. The salvage managers group also arranged for meetings of their own group to report plans, progress and results for the benefit of all plants co-operating.

C. The salvage managers group adopted a simple 3-point salvage program to be put into effect by *employees* in each of the individual plants, as follows:

1. Conserve material, minimize waste and spoilage.
2. Separate unavoidable scrap and cut down at the source. Avoid contamination.
3. Sort blanks, short ends, cut downs, clippings, with a view to their reuse either in the de-

(*Continued on Page 44*)

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*Note: In Erie the Erie Chapter of the National Association of Manufacturers and the Erie Foremen's Association were represented on the executive committee. In other cities other associations may be represented.

Mill News

Orangeburg, S. C.—The mill canteen, operated solely by the employees of Santee Mills, have contributed a sum of $700 for the purchase of United States Defense Bonds.

Orangeburg, S. C.—The Santee Mills are completing the installation of two new Abbott winders and one Cocker Hi-Speed warper.

Albany, Ga.—The Interstate Hosiery Mills, Inc., announces that it has purchased eight of the largest 45-gauge textile full-fashioned knitting machines.

They will be installed immediately in the Albany Interstate plant.

Knoxville, Tenn.—Standard Knitting Mills is to install a salary allotment plan to permit employees to purchase defense bonds and saving stamps, according to an announcement of C. S. Rader, secretary-treasurer. This official said employees would be given an opportunity to sign authorization cards directing employers to withdraw a certain sum each payday from wages. When enough money has been accumulated in this way, the company will buy and deliver defense bonds to the employee.

Headland, Ala.—The local hosiery mill is adding two 45-gauge, 24-section machines to its equipment and will add another in January. The machines are rebuilt ones from Archer Hosiery Mills in Columbus, Ga. Their addition means employment of 10 or 15 more workers, it is said, and will bring the weekly payroll to $750.

Laurens, S. C.—Rodgers Hosiery Co., employing about 250, is beginning liquidation, and part of the machinery is being moved to the Athens, Ga., plant. The action is laid to the difficulties of obtaining raw silk and nylon.

According to H. E. Pearson, local manager, it will require several weeks to close out work in process. He said sale of the plant to other interests was under way when war began and broke off the deal.

The company will offer the building for sale, it was said.

Lexington, N. C.—The population of the City of Lexington has been increased to 12,000 by the admission of the Erlanger Mill section under a legislative act. The city board of commissioners has been expanded from eight to ten and the two commissioners representing the new ward will be E. P. Cofield, general manager of the Erlanger Mill Co., and Carl G. Haynes, an overseer of the Erlanger Mills.

Greenville, S. C.—A new warehouse, costing approximately $10,000 and consisting of one story, has been about completed at the Piedmont Plush Mill here. Plans were drawn by J. E. Sirrine & Co.

West Point, Ga.—At the recent annual stockholders meeting of the West Point Mfg. Co., President George H. Lanier stated that the expenditure of about $1,100,000 during the preceding fiscal year for building and machinery was principally for new and rebuilt machinery for replacements. He noted that little building was involved.

Avondale, N. C.—At the Haynes Plant of the Cliffside Mills, construction has been completed on the erection of an addition to the mill to accommodate a new sanforizing machine, which will be installed shortly. The mill operated 21,172 spindles and 509 looms, according to the latest edition of Clark's Directory.

Enka, N. C.—J. N. Gill, plant manager, said recently that the American Enka Corp. was considering construction of air-raid shelters.

Corporation officials are giving serious consideration also to plans for evacuation of employees from buildings in the event of an air raid and to protection of chemicals, he said.

LaGrange, Ga.—The Dixie Cotton Mills of this city have completed a new two-story brick and steel addition to their plant. This will house 20 new Saco-Lowell cards and five new one-process pickers. Additional looms will be installed at a later date. Dixie Mill is also remodeling their opening room. Modern, up-to-the-minute toilets have been put in for the use of the employees. The size of the new addition is 30 feet by 200 feet. A new yarn storage shed, size 19 feet by 50 feet, is being built adjacent to the twister room.

OBITUARY

FREDERICK HAMBLETON

Frederick Hambleton, prominent in the textile spool and bobbin business for the past 45 years, died recently in Methuen, Mass., after a short illness.

He was born in New Mills, England, in 1875. He was a partner and founder of the firm of Hambleton Bros. Co., Goffstown, N. H., until 1911; and for 15 years was associated with the U S Bobbin & Shuttle Co. as superintendent of two of their manufacturing plants. In 1927, with the late William T. Prescott, he founded the H. & P. Spool & Bobbin Co. in Lawrence, Mass. He was the holder of several patents connected with his business.

Mr. Hambleton was active in Masonic affairs, and belonged to various Masonic Orders in New Hampshire. He is survived by his widow, two daughters and one son.

His business, the H. & P. Spool & Bobbin Co., will be carried on by his son, Herbert L. Hambleton, who has been connected with the firm since its beginning, and who has represented the company in the Northern (Eastern) territory.

This firm's products are distributed in North and South Carolina by the Textile Mill Supply Co., Charlotte, N. C.; in Georgia and Alabama by the Columbus Iron Works Co., of Columbus, Ga.; and in Texas by the Textile Supply Co., Dallas, Tex.

SH

76 Years of STARCH SERVICE

Since 1866 our policy of Fair Service to All has been the bulwark of our business. It has withstood the test of two major wars and several depressions. Today our customers have confidence in our ability to protect their interests . . especially through the present emergency. They have confidence in the high quality of our textile starches . . corn, potato, wheat . . which reflect the craftsman's art in skillfully converting the best materials the world affords. This customer confidence is one of our most valuable assets. We shall do all in our power to preserve and strengthen it.

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Adjustable outlets make Parks Traveling Cleaners

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- MORE EFFICIENT

Volume of air may be regulated, where the air is aimed may be adjusted. Both air streams may be "spotted" in — or directly down — or slightly out; each side independently of the other.

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Fitchburg, Mass.

Charlotte, N. C.

Personal News

T. M. Marchant, Jr., has been elected president of The Revelers, a social organization of Greenville, S. C.

C. P. Dill, superintendent of the Brandon Corp., Woodruff, S. C., has been elected a member of the Rotary Club of Woodruff.

H. C. Bone has been promoted from second hand to foreman of the warping department, Standard-Coosa-Thatcher Co., Piedmont, Ala.

J. F. Plexico, formerly overseer of carding at the U. S. Rubber Co. plant at Shelbyville, Tenn., has been promoted and transferred to the plant of the company at Des Moines, Iowa.

W. K. Stringer, Jr., president of Kenneth Mills, Walhalla, S. C., was married recently to Miss Lela Sitton. Mr. Stringer is a graduate of Riverside Academy and Vanderbilt University.

R. F. Harris, superintendent of the Robinson Yarn Mills, Dallas, N. C., has been named chairman for the war relief campaign of the American Red Cross in Dallas and community.

E. P. Cofield, general manager of the Erlanger Mills, Inc., and Carl G. Haynes, a foreman, were added to the Lexington, N .C., board of commissioners as the village of Erlanger became part of the City of Lexington.

James W. Sears, assistant superintendent of the Roanoke Mill No. 1, Roanoke Rapids, N. C., has been called into active duty with the U. S. Army as a first lieutenant. He is a graduate of N. C. State College.

J. G. Auhamer, Clemson textile graduate, has been named assistant teacher in textiles in the Greenwood, S. C., High School to succeed R. M. Yonce, reserve officer, who has been called into active service.

J. Norman Pease, of Charlotte, N. C., who holds a commission as colonel in the Quartermaster Corps of the U. S. Army, has been ordered to report for active duty. During his absence his business will be continued under the direction of competent engineers.

George M. Wright, Jr., superintendent of Mills Nos. 1 and 2, Republic Cotton Mills, Great Falls, S. C., is reported to be now out of danger following an emergency operation for a ruptured appendix. His condition was extremely serious for a time.

Chester L. Eddy Resigns From Arnold-Hoffman

Chester L. Eddy, assistant sales manager of Arnold-Hoffman Co., with the Southern sales offices located in Greenville, S. C., has resigned his position with the company as of January 1st.

Mr. Eddy is taking a rest during the month of January, spending his vacation in Jackson, Miss., and St. Louis, Mo. He will announce his future plans on his return about the first of February.

Mr. Eddy, for a good many years, was formerly connected with Renfrew Bleachery at Travelers Rest, S. C., as superintendent and assistant manager.

John P. Stevens, Jr., New President of J. P. Stevens & Co.

New York.—Robert T. Stevens has resigned as president and director of J. P. Stevens & Co., Inc., upon being called to active service as a colonel in the United States Army Quartermaster Corps, it has been made known at the company's offices.

Colonel Stevens has assumed his new duties in Washington. From June to October, 1940, he served with the National Defense Advisory Commission in Washington as group executive of the textile section on the staff of Edward R. Stettinius, Jr., head of the Industrial Materials Division.

It was also announced that John P. Stevens, Jr., had been elected president of the concern and Thomas W. Estes a vice-president.

John P. Stevens, Jr., graduated from Yale University in 1919, having served in France during the last war as a lieutenant of field artillery. He was graduated from the Harvard Law School in 1922, and shortly thereafter joined J. P. Stevens & Co., where he has been vice-president and director for the past 12 years. Mr. Estes has been associated with the company since 1930.

OBITUARY

C. MARVIN MAHONEY

Anderson, S. C.—Stricken with a heart attack January 8th at Orr Mills, where he was employed, C. Marvin Mahoney, 59, died in the mill office of a second attack before a physician could arrive. Immediately after he was stricken, Mr. Mahoney was removed to the mill office and a doctor summoned, but he suffered a second attack and died almost immediately.

Mr. Mahoney was a native of Georgia, but had made his home in Anderson for several years. He was employed as a second hand in the weave room of Orr Mills.

PACKAGE DYEING AND BLEACHING

All Types Colors on
Cotton Yarns

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They are Rugged, Accurate, Dependable

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Suitable for Blends with Rayon or Cotton

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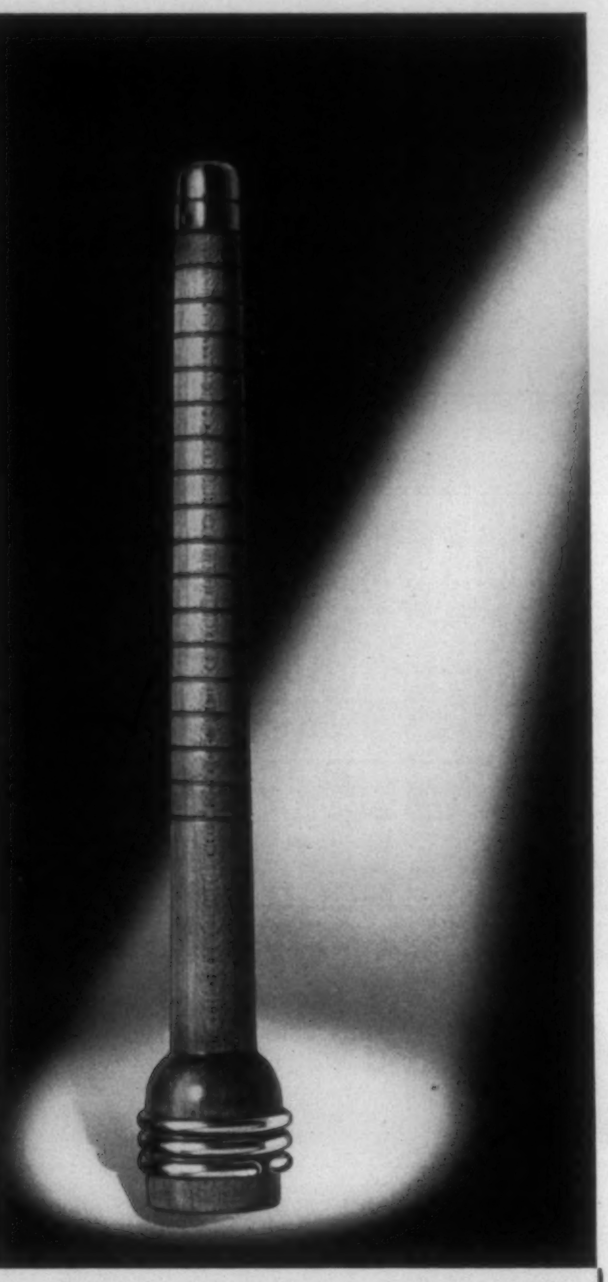


PRECISION BOBBINS

Here is another point where precision is highly important . . . the space between the lower ring and the bottom of the bobbin. Our tools are so made that a variation of more than two or three thousandths of an inch is impossible. Standard tolerance at this point is thirty thousandths.
Precision bobbin accuracy at this point means fewer mistransfers and less shuttle spring breakage.

Precision Bobbins Are Made By

NEW ENGLAND
BOBBIN & SHUTTLE CO.

George M. Hambleton, Gen. Mgr.
NASHUA, NEW HAMPSHIRE

Clark Publishing Co. Employee Is Given High Honor

At the annual election of officers of Excelsior Lodge, No. 261, A. F. & A. M., of Charlotte, held at the Masonic Temple December 15th, J. Robt. Keever, chief linotype operator at the Clark Publishing Co. for over 20 years, was elected Master for the ensuing year, succeeding John C. Smathers, who served as Master during the year 1941.

J. Robt. Keever

The Master of a Masonic Lodge is elected for a term of one year, though in some instances he is re-elected for a second or even a third term. This is the highest honor within the gift of the Lodge and is attained only by those who by their inflexible fidelity prove themselves worthy.

At a recent meeting of the Twenty-seventh District, comprising the Masonic Lodges of Mecklenburg County, Mr. Keever was presented a Twenty-five-Year Service Certificate awarded by the Grand Lodge of Masons of North Carolina to those members who have a record of twenty-five years' continuous membership. Thirty other Masons of the District also received this award.

Veteran Mill Overseer Retires

Greensboro, N. C.—Alexander Leroy Beal, overseer of the weaving department of the White Oak Cotton Mills for the past eleven years, retired as of December 31st.

Mr. Beal started work with the Cone mills in 1897 as a weaver, and worked up in successive stages from weaver to loom fixer, to second hand, and then to overseer of the largest denim weave room in the country.

A. L. Freedlander, President of Dayton Rubber, Joins OPM

A. L. Freedlander, President and General Manager of the Dayton Rubber Mfg. Co., Dayton, Ohio, was appointed Deputy to the Chief of the Rubber and Rubber Products Division of the Office of Production Management on December 26th. Mr. Freedlander has been in the rubber industry for twenty-eight years. Leaving the development division of one of the large Akron companies twenty-two years ago, he joined Dayton Rubber in the capacity of factory manager. Several years later he was made vice-president, and became president and general manager in 1936. Mr. Freedlander is credited with a long list of developments in rubber chemistry, engineering and manufacture. He served the Government during the first World War.

Mervyn Nabors Given Important Position With Shell Oil Co.

Mervyn H. Nabors, former manager of Shell Oil Co.'s Southern Division lubricating department, with headquarters in Atlanta, Ga., has been transferred to New York as assistant manager of the lubricants department.

Mr. Nabors has been associated with Shell since 1932, and began work for the company as a service engineer in the Alabama territory. He is a native of Leeds, Ala., and a graduate of Auburn, where he majored in electrical engineering.

In his new position, Mr. Nabors will concentrate primarily on sales.

James L. Coker—OPM Consultant

James L. Coker, President of Sonoco Products Co., Hartsville, S. C., has accepted a position as consultant in the pulp and paper branch of the Office of Production Management, D. C. Sonoco Products Co. operate a number of paper mills in the production of paperboard used in the manufacture of paper cones, tubes and cores for the textile industry.

Mr. Coker represents the third generation of his family in paper manufacturing, and his wide experiin the paper manufacturing industry should be invaluable to the OPM at this time.

Open Bids January 21 On 200,000,000 Yards Duck, Tent Twill

What will probably be the greatest single order in the history of the cotton duck industry is soon to be placed by the War Department.

Bids will be opened January 21st to supply the Army with 200 million yards of cotton duck and tent twill. All of this will be in addition to large quantities of procurements pending for the Navy.

It is reported that the specifications are to call for delivery by June 30, 1942.

Although the established cotton duck industry is operating on a three-shift basis, it is not known whether cotton mills can produce all the material wanted in the short time required.

It has been predicted that the Army will be compelled to enter the carpet and upholstery industry as well as the tire cord field for emergency facilities.

Of the 200 million yards of material involved in the impending procurement 84,785,000 yards specifies tent twill. It was assumed in the market that inclusion of this item anticipated limitations in the total availability of regular shelter tenting. The twill substitute, as used in the past, has been a 36- to 40-inch, four leaf.

Other major items reported in the procurement include:

34,617,000 yards of shelter tent duck.
14,778,000 yards of 30-inch, 8.42 ounce Army duck.
17,050,000 yards of 30-inch, 8.42 ounce Army duck.
9,890,000 yards of 36-inch, No. 6 duck.
6,906,000 yards of 37-inch, No. 6 duck.
3,300,000 yards of 36-inch, No. 8 duck.

FOSTER MODEL 102 TUBES

Why they are best for Warping or Twisting Yarns

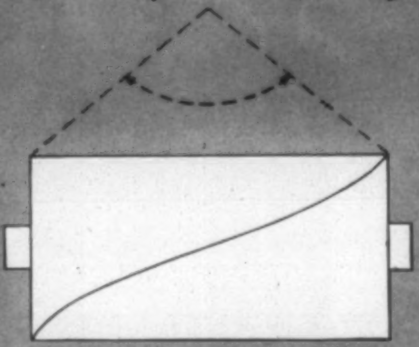


DIAGRAM A—Showing maximum change in angle of pull per revolution of tube.

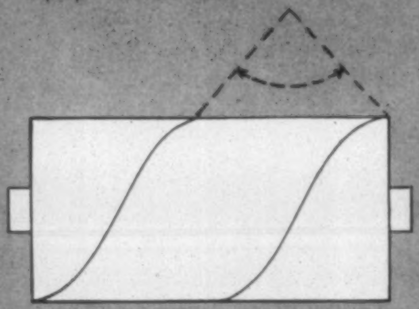


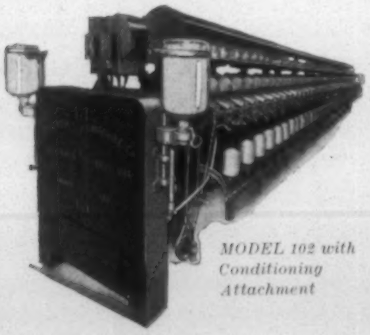
DIAGRAM B—Showing minimum change in angle of pull per revolution of tube.

When yarn is delivering from rotating tubes in a creel, there is a sudden lash or jerk when it reaches the end of the traverse. The faster the traverse or the fewer the spirals per traverse, the more lash there is, because of the quicker change in angle of pull (see diagram A). On the other hand, the slower the traverse, or the more the number of spirals per traverse, the less lash there is because of a slower change in angle of pull (see diagram B).

This lash or jerk puts a certain amount of strain on the yarn. This strain is not serious in the case of coarse strong yarns, but when fine yarns are involved, if the lash is too much, excessive breakage may result. Uneven tension is another fault caused by excessive lashing and may be serious in some cases.

From the foregoing it is evident that the same angle of wind is not suitable for all counts or types of yarn and that the angle of wind used for the coarsest yarns (similar to diagram A) is NOT the best for fine yarns. That is one reason why the Foster Model 102 Winder provides for 9 different angles of wind from 9° to 18° simply by changing 4 small gears in the head end.

Many other advantages of this machine are explained in Circular A-91. It is yours on request.



MODEL 102 with Conditioning Attachment

FOSTER MACHINE COMPANY, WESTFIELD, MASS.
SOUTHERN OFFICE, JOHNSTON BUILDING, CHARLOTTE, N. C.

TEXTILE BULLETIN

Member of
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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

Inventions Coming

It has been often and truly said that "necessity is the mother of invention," and we predict that the necessities, arising from this war, will bring a flood of new ideas and new inventions.

The shutting off of our rubber supplies from the East Indies had hardly been announced before the following newspaper dispatch appeared:

> Amarillo, Tex.—Two young engineers from Pittsburgh said Saturday they were producing acetylene in an experimental plant at a cost low enough to use it in making synthetic rubber on a basis competitive with the natural product.
>
> John B. Orr, Jr., a chemist, and J. A. Stranahan, Jr., an industrial engineer say that they have perfected a process for the low-cost manufacture of acetylene, which is the basis of much of the artificial rubber being manufactured today, as well as for many plastics and similar products.

This, in our opinion, is only the beginning of a long series of similar announcement because necessity is here and the American mind is at work.

When this war is over we will not only have small need for silk but will be manufacturing substitutes for rubber and many other things which we now import.

The American mind has also turned to weapons of war and we have the idea that Hitler and his Jap allies will be surprised many times before this conflict is over.

It is rumored that a new and exceedingly powerful explosive has been invented and will soon be produced in volume.

Racket Resumed

Although there are now Federal Child Labor Laws and there is no child labor, except upon farms, the racketeers who formerly operated the National Child Labor Committee have decided that there might be some additional pickings and are flooding the country with literature and with request for funds for the elimination of child labor.

They are enclosing pictures of children working upon farms and doing such work as picking cotton, but, of course, neglect to mention that the work is seasonable and lasts for only a few days.

The racketeers, parading as a National Child Labor Committee, know that they can never obtain legislation which will deny the farmer the right to have his children assist him during rush seasons but they do see a chance to collect money with which to again pay themselves fat salaries.

A very small amount of the money collected for the elimination of child labor has ever been used for that purpose.

Fred Beall Released

Fred Erwin Beall has been "sprung," as the convicts say, that is, he has been released from the North Carolina Penitentiary.

Fred Erwin Beall, should our readers not remember, came South in April, 1929, as the representative of the International Textile Workers which openly admitted that it was a communist organization.

He promoted a big strike in the mills at Gastonia, N. C., and had as his assistants Vera Bush, Amy Schecter, Geo. Pershing and many others who boasted that they were Reds. He also hired and brought to Gastonia a number of professional gunmen.

He built a so-called hut, which was in the nature of a fort, with port holes through which guns could be pointed and fired.

When his strike began to weaken, Beall staged a parade in defiance of a Gastonia ordinance and, when Chief of Police Aderholt and his deputies arrived, guns blazed from the fort and Aderholt was killed with buckshot.

Desperate efforts were made by the communists, including those at the University of North Carolina, to prevent the punishment of Fred Erwin Beall and his gunmen, but they were convicted and given sentences of 17 to 20 years.

A group of radicals raised $75,000 bail and all of the convicted men fled to Russia.

Red Hendricks returned and served a term of five years and later Beall came back to this country and tried to avoid punishment for the death of Chief Aderholt by claiming that he had turned against communism.

We have never believed that his denial of communism was for any purpose, other than to create sentiment in his favor. The fact that Jonathan Daniels, editor of the *Raleigh News and Observer,* and Paul Green, playwright of Chapel Hill, fought against his admission to the penitentiary and continued their efforts, in his behalf, until he was released, is to us, proof positive that he remained a follower of communism.

Fred Erwin Beall served several years in the penitentiary and his release, at this time, will not make much difference, but we have an idea that when this war is over and the communists begin their drive to wreck our form of Government, he will be found in the front ranks side by side with those who "sprung" him from the North Carolina penitentiary.

Sez You?

"Planning a four-shift system is a very simple matter. In a typical 40-hour week, continuous-operation schedule, three shifts work regular eight-hour tricks five days a week, accounting for 120 of the 168 hours in the week. The swing shifts works the remaining 48 hours on a staggered basis.—From a recent statement by the Acting Administrator of the U. S. Wage and Hour Division.

Comments on Editorials

"I have been intending for several days to write to you and tell you how great was the impression made upon me by your splendid editorial, 'At War,' published in the TEXTILE BULLETIN issue of December 15th."—Floyd W. Jefferson, Iselin-Jefferson Co., New York.

* * *

"We are putting out some bulletins to our employees and in this connection we would like to quote your editorial of December 15th. We will appreciate it if you will kindly grant us this privilege."—Peyton Rowan, Mgr., Profile Cotton Mills, Jacksonville, Fla.

* * *

"Referring to your issue of December 15th, I have read two editorials with much satisfaction and gratification. The one, 'Our Bill of Rights,' and the other, 'Dissenting Opinion.'

"Needless to say that our minds are running in the same channel and I congratulate you upon having the courage to speak out in meeting."—Philip C. Wentworth, Treas., National Ring Traveler Co., Pawtucket, R. I.

"IF THOSE TWO LINES CROSS WE GOES OUT OF BUSINESS"
SELLING PRICE
COSTS OF PRODUCTION AND DISTRIBUTION

Reprint from THE HORDER ADVISOR

A Fine Example

December 19, 1941

Acme Steel Company
Chicago, Illinois
Gentlemen:

We Have A Job To Do

RESOLUTION PASSED

At the time when America needs the full efficiency of everyone, it is essential that we realize what our immediate task is. The International Association of Machinists, Local 1129, went on record at the Thursday meeting of this Local Union of Acme Steel Company, Archer Avenue Plant, that the entire membership pledged wholeheartedly to endorse and support the act of the President and Congress in the Declaration of War.

What differences there may have been between management and the employees are now a thing of the past. We have a job to do for Uncle Sam. The Union further pledges itself not to cause any stoppages of production in this plant, and the management can count on us to do our share and more in bringing this program to complete victory.

International Assn. of Machinists
(Signed) Edward M. Lafont
Frank G. Hopper
George H. Reed
The Shop Committee

FOR VICTORY!

THE country is now at war and so it's — "on to Victory". • The Onyx organization is pledged 100 per cent with all its resources and equipment in this fight for ultimate Victory. • To all manufacturers engaged in supplying the armed forces or the buying public with textiles — Onxy extends its modern facilities and experienced personnel in complete cooperation. • Production is imperative today. Step up your production with Onyx processing and finishing compounds. They are bringing to many manufacturers not only more but better, much better production. Use them for your profit.

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ETERNALURE ONYXSAN

R. L. Harris Heads Roxboro Cotton Mills

Roxboro, N. C.—R. L. Harris, for many years secretary-treasurer of the Roxboro Cotton Mills here, has been elevated to the position of president as well as treasurer. Mr. Harris is also Lieutenant Governor of North Carolina. Mr. Harris was elected by the board of directors at the annual meeting. He replaces the late J. A. Long, Sr.

Chas. H. Stone Completes Contract With American Cyanamid

H. L. Derby, president of the American Cyanamid & Chemical Corp., with headquarters in New York City, which, in 1937, acquired the chemical business and plant of Chas. H. Stone, of Charlotte, N. C., has announced that Mr. Stone has completed the service contract then entered into between himself and the Cyanamid Co. Mr. Derby, added, however, that he was glad to announce that arrangements have been made whereby Mr. Stone will continue his connection with the corporation in an advisory capacity, and will be located in the Commercial National Bank Building, in Charlotte.

Piedmont Section A.A.T.C.C. Meets in Greenville January 24th

The Piedmont Section of the American Association of Textile Chemists and Colorists will hold their next meeting at the Poinsett Hotel, Greenville, S. C., on the evening of January 24th, at 7:15 o'clock.

The principal speaker will be John L. Crisp, who will talk on "Sulphur Colors in Defense."

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The Size Penetrants for Spun Rayon and Acetate THAT WORK
High Point, - - - North Carolina

DYEING AND FINISHING

Properties of Chemicals That Make Them Valuable for Textile Processing

By D. P. Quinn

Part IV

Phosphates

(*This article is a continuation of Part III, published in the Textile Bulletin, October 15, 1941, issue*)

THE previous articles of this series* discussed the general properties of phosphate compounds and gave detailed technical data on Tetra Sodium Pyro Phosphate as to its specific properties and application to the wet processing of viscose and acetate rayon, wool, cotton and silk as well as its other manifold uses in the textile industry.

There are several other phosphates that possess special value in their application to the processing of textiles. These are:

Tetra Potassium Pyro Phosphate
Tri Sodium Phosphate
Di Sodium Phosphate
Mono Sodium Phosphate
Sodium Hexa Meta Phosphate

The phosphoric anhydride (P_2O_5) portion of a phosphate compound governs its chemical and physical properties and from this chart below one can readily see why certain phosphates prove of value for the many varied applications to textile processing that they are used for in the textile wet processing industry.

	pH of 1% Solution	Approximate P_2O_5 Content
Tetra Sodium Pyro Phosphate—		
Anhydrous	9.7–9.9	32.0
Crystalline	9.8–9.8	53.0
Tetra Potassium Pyro Phosphate—		
Anhydrous	9.4–9.6	48.0
Tri Sodium Phosphate—		
Crystalline	11.0	18.5-19
Anhydrous	11.0	40.0
Di Sodium Phosphate—		
Crystalline	9.0	19 –20
Anhydrous	9.0	49 –50
Mono Sodium Phosphate—		
Crystalline	4.6–4.8	52.0
Anhydrous	4.5–4.6	58 –59
Sodium Meta Hexa Phosphate	8.0–8.4	68
Di Ammonium Phosphate	7.8	

Tetra Potassium Pyro Phosphate

During the past few years, tetra potassium pyro phosphate has been introduced to the textile industry and it has been found to possess many possible uses due to its improved solubility as compared to tetra sodium pyro phosphate. The potassium compound is more expensive than the sodium compound and with the increasing cost of potassium it may become too expensive to use on a commercial scale except where its special properties will make it very effective to use.

Plant experimental processing work carried out with tetra potassium pyro phosphate has shown that its physical and chemical properties vary slightly from those of the tetra sodium pyro phosphate. The chief noticeable differences are that the potassium compound shows better solubility which means that a dyehouse or bleachery operative could reduce the time required for the boiling up a solution of tetra potassium pyro phosphate as compared to the sodium compound.

In addition, the potassium compound gives a very even swelling action on the heavily delustered or pigmented acetate and viscose rayon fibers and maintains a moderate uniform sudsy bath throughout the processing operation at temperature of 140 to 200° F. Another interesting property is that in rinsing off a dyelot preparatory to finishing off, the rayon goods processed with the potassium compound appear to possess better rinsibility at cold and lukewarm temperatures.

It may be that even with the increased cost of the potassium compound that these physical properties giving it noticeably improved solubility, uniform swelling action on heavily delustered acetate and viscose rayons, and good rinsibility on dyed spun rayon goods will make the use of tetra potassium pyro phosphate of practical value to the dyer on better quality yarns and fabrics. Dyers and bleachers can use tetra potassium pyro phosphate in place of tetra sodium pyro phosphate on a pound for pound basis on practically all textile wet processing formulae.

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*Properties of Chemicals that make them valuable for textile processing—Part II, Page 39, Textile Bulletin, Sept. 15, 1941, and Part III, Page 37, Textile Bulletin, October 15, 1941.

Tri Sodium Phosphate

Tri sodium phosphate was the first of the phosphate compounds of a detergent nature to be placed on the market and it entered into direct competition with soda ash (sodium carbonate) and modified caustic soda compounds. It is being used in immense quantities for practically the same type of processing formulae as tetra sodium pyro phosphate and is used chiefly because it is less expensive and this gives it a noticeable cost advantage on processing methods that are not very precise and careful about the pH of the bath as well as the stability of the bath over a long period.

Tri sodium phosphate can be used by a careful plant chemist and dyer on cottons, spun rayons and acetates with good results but such a plant man has checked its merits as well as the defects and knows how to use it advantageously.

There are many yarn dyers who will tell you that they would use only tri sodium phosphate in boiling out yarn in the package or beam while others may say that yarn boiled out with it shows dirity inside and outside of package, as it cleans too thoroughly and deposit the dirty ingredient onto the inside and outside of package through filtering. Such a reply as this sounds funny because one would reason that it is best to reduce the amount of tri sodium phosphate and secure the well scoured out yarn.

Some of the chief reasons why tri sodium phosphate became popular and was widely used by plant chemists, bleachers and dyers were because it was:

1. The first detergent offered to the dyers that possessed fairly good stability over a long processing period at high temperatures of 170° F. to a boil 212° F.)
2. It could be used in "hard water," as it possesses good water softening action where a high alkaline pH could be used on the processing operation without affecting the goods to be processed.
3. It could be used to make emulsions of pine oils, sulfonated castor, etc., satisfactory for scouring agents.
4. It could be used in peroxide bleaching bath to help speed up the bleaching operation without affecting the goods bleached.
5. Due to its water softening action, it found widespread adoption in kier boiling as it removed the iron, magnesium, calcium and aluminum salts from the plant processing waters by chemical combination then solubulized these metallic compounds so that they could be removed from a kier without filtering through the kier onto the boiled out kier goods as occurred when the older type of alkalies and kier soaps were used for kier boiling.

Tri sodium phosphate was found very useful for kier boiling in water containing iron which usually leaves a brownish scum on the top of a kier load.

For wool, acetate rayon and silk processing, tri sodium phosphate gave too high a pH processing bath and this required very careful control to prevent affecting these fibers during the various prescouring, degumming and boil-off operations. There were many products that could be used to lower the pH value of a bath such as soaps, sulfonated fatty alcohols and other compounds have been used with tri sodium phosphate for this purpose.

Tri sodium phosphate has been widely used in the dyebaths for hosiery, cotton and viscose rayon, but recently it has been applied to the preparation of vat colors for the dyeing of cotton and spun rayon in mixed fabrics containing acetate, wool, cotton and spun rayon. The vat colors were to be applied to the cotton and spun rayon but must not affect the acetate rayon or wool fibers which are seriously affected by the strong alkaline bath of vat colors reduced by the regular procedures. To lower to pH of the reduced vat dyebath tri sodium phosphate was used to replace caustic soda, and it has been found practical to dye these multi-fiber fabrics without injury to acetate or wool and at the same time secure the desired color fastness for the dyed cotton and spun rayon.

Clark† has carried out a series of interesting tests on the dyeing of vat colors on cotton and spun viscose rayon in the presence of acetate rayon and wool, and this experimental work shows great potential possibilities. This type of experimental research work shows the great possibilities in the phosphate compounds due to their valuable physical and chemical properties.

Di Sodium Phosphate

Di sodium phosphate is one of the lesser used compounds but possesses real value in the dyeing of selected direct colors on silk and viscose rayons. Investigation on the dyeing of nylon with this product may show real value but to date it has not been carried out fully.

As long as silk was used extensively, di sodium phosphate was used on the weighting of silk but has not found extensive use of this nature on rayons, as their cost is cheaper. On less expensive goods, it has been used as a fire-proofing agent, but this process tends to make the fire-proofed fabrics too stiff and "boardy" and this process is used chiefly on heavier cotton goods.

Mono Sodium Phosphate

During the past few years, experimental work on the use of mono sodium phosphate in the dyeing of sulfur colors on cotton rawstock has been carried out. One to three per cent on the weight of cotton rawstock has been used. In some sulfur colors dyed the amount of sodium sulfide used was reduced slightly but on others the regular formula was used. From plant dyeings run, it appears that the addition of mono sodium phosphate to the sulfur dyebath increased the depth of shade noticeably as well as reduced the tendency to bronze on the heavy blue dyeings.

This product is used by textile power plants for conditioning the boiler water as the product prevents sludging and scaling of boilers.

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†The Vat Dyeing of Mixed Fibers—Page 7, American Wool and Cotton Reporter, August 28, 1941.

Di Ammonium Phosphate

Di ammonium phosphate possesses many similar properties and uses as di sodium phosphate. In recent years, experimental work carried out has shown that it possesses fire retarding properties and is being used in with other ammonium, borate and similar salts for fire-proofing of heavy goods such as office building curtains, stage curtains and scenery.

Sodium Hexa Meta Phosphate‡

Sodium hexa meta phosphate is a novel phosphate compound in its manifold uses in textile processing, as it does not possess detergent action itself but supplements the detergent action of the soap, alkalies or sulfonated fatty alcohols which are present in the processing bath. This property of supplementing the various detergents is due to the chemical and physical properties of sodium hexa meta phosphate which plant processing operations have shown to be:

1. Binding and reacting with calcium, magnesium, aluminum, iron and other salts that may be found in textile processing waters and holding these salts in stable but complex soluble salts, thereby removing them from the textile fibers under process.
2. Soaps and many other compounds have the property if used in sufficient quantities of softening "hard" water supplies containing calcium and magnesium salts as well as being detergents but when heated this softening action is broken down due to the decomposition of the softening agents such as soaps, etc. To prevent this breakdown and continue the detergent action of soap, etc, the processing bath needs a stabilizing agent and the addition of sodium hexa meta phosphate to the bath aids in maintaining the "life" and detergency of soap and other detergent products.
3. Sodium hexa meta phosphate possesses good properties of assisting in the dispersion and solubulizing of various textile assistants and dyestuffs thereby keeping the dyebath in solution.
4. The use of this product has been found useful in the solubilizing of fast color salts in the developing bath on Naphthol colors. This is due to the fact that several types of fast color salts are stabilized in manufacture through the use of aluminum sulfate as a buffering agent. The addition of sodium hexa meta phosphate to the developing bath reacts with the aluminum sulfate and prevents the formation of "aluminum soaps" on the goods being dyed. This valuable property in the naphthol developing bath helps to reduce the crocking of naphthols colors considerably.
5. The addition to the soaping off and finishing operation on vat and naphthol dyed yarn and piece goods is of value, as soap may be used in this operation in preference to sulfonated fatty alcohols which do not as a rule possess as good detergent action as soap in combination with sodium meta hexa phosphate.

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‡Sodium Hexa Meta Phosphate is the chemical name for the trade named "Calgon," sold by Calgon, Inc.

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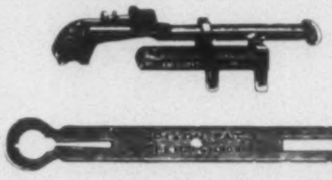

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Cotton Good Markets

New York.—On the heels of the announcement that the Government would soon place orders for some 200,000,000 yards of duck or similar cloths came the announcement that mills producing such fabrics should sell only to agencies of the Government, until such time as further orders are issued. This is going to work a hardship on a great many users of industrial fabrics, who have been unable to accumulate much of such goods over the past two or three years. Also, it is considered impossible for mills at present on duck to furnish this additional yardage, and it seems likely that carpet and rug mills will have to be pressed into service to fill the orders.

Cotton goods markets continue dull, as they have been for some time, despite the attraction of unusually high price levels which under circumstances of only a short time ago would have brought out fairly heavy offerings. Prior to the outbreak of war there were many mills willing to sell on each advance in the ceiling price limits, but since that time price has become a secondary consideration to the organization of the textile war effect. With the trade hearing of Government orders for ducks (as mentioned above), with talk to the effect that the problem of producing more osnaburgs is being advanced at Washington to a point where it may compel production shifts, and with a good deal of conversation about the trade in regard to supplying military and possibly other needs of countries abroad, manufacturers are less prone to heed civilian requests here. Much of the business that is being taken, and this is limited, is reported to be against priority orders.

Weavers of rayon gray goods and their customers are still confused as mounting war demands tended to overshadow the temporary fullness of inventories in several of the finished goods markets.

Twenty or 30 million yards of nylon parachute fabric may be purchased by the Government soon, mill men have been told. The quantity would greatly exceed the recent silk parachute procurements.

Conflicting reports were in circulation with regard to whether the coming nylon purchases have been discounted by the OPM's currently imposed 20 per cent reduction in allotments of nylon yarn to hosiery manufacturers. Certain cloth men were of the impression that there will have to be even more radical allocation measures in the near future.

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Cotton Yarn Markets

Philadelphia.—Demand is still running ahead of supply in both carded and combed yarns, and buyers are reported to be making efforts to obtain commitments from mills for deliveries as far as possible into the future, as far ahead as June where possible.

There is every likelihood of a progressive shortage of combed yarns for civilian use, as war needs expand to take care of the soon to be expanded army and navy. There has been some talk of insufficient consideration of Governmental needs by combed yarn mills in general. Should this condition become acute, there is no reason to believe that the Government would not take over all production of the mills and allocate it to such customers as they considered vital to the conduct of the war. This, however, is predicted as a last resort measure, which will be avoided as long as there is any chance of filling war needs without it.

Reports are that the final limit of productive capacity has been reached by many yarn mills, since they are operating their cards on a schedule of 168 hours a week. On interesting observation here is the recent finding of G. H. Dunlap, who is doing research work for the Textile Foundation and the Southern Textile Association. A number of mills, conducting tests under the supervision of Mr. Dunlap, have speeded up their cards, thus giving more production, and the odd result found in some cases is that the breaking strength of the resultant yarn was higher at the higher speeds than at the lower speeds. No reasons for this finding have been advanced, and the tests are not far enough advanced to furnish final conclusions, but if the reports continue to show no loss of strength or cleaning from higher speeds it may be some solution to the bottle neck of the carding department.

There is some confusion among yarn suppliers regarding the ultimate use of yarn they are shipping. Reports are that some customers are obtaining yarns through ordinary channels, and then later coming back with orders for similar yarns with a high preference rating, indicating that they are using the yarn in military goods. What the spinners want to know is whether or not the buyers are filling their civilian needs through regular channels and then getting the additional yarn for military needs.

Under existing conditions it is difficult for the yarn mills to know just to what extent they are actually cooperating in the war effort. A clarification of this situation would be beneficial to all concerned.

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1941 Rayon Yarn Deliveries Over 37,000,000 Pounds Monthly

Domestic deliveries of rayon yarn were maintained at an average of over 37 million pounds a month, it is reported in a preliminary estimate of the size of the rayon trade in 1941 by the Textile Economics Bureau.

The unprecedented size of this delivery figure is given perspective by comparison with an average monthly yarn delivery figure of approximately 32 million pounds in 1940.

Summarizing the statistic picture of the rayon industry during 1941, the bureau states:

"The story of the 1941 demand for rayon yarn, however, is not only in the magnitude of the yarn delivery level or its increase over 1940 but also in the fact that the potential demand for rayon yarn was unquestionably in excess of this delivery level. The productive capacity of the industry, and not the demand, determined the level of yarn deliveries.

"Further, it is important to note that the 1941 demand for rayon yarn came primarily from weavers, knitters, and other fabricators manufacturing rayon products for the civilian consumer and does not reflect heavy purchases of rayon yarn for defense purposes. Unlike wool and cotton, rayon has not been used extensively in textile products for the nation's armed forces to date. Principal defense products in which rayon has been used, however, include airplane, automobile, and truck tires, self-sealing gas tanks for combat planes, parachute canopies, uniform linings, paratroop jump suits, waterproof fabrics, braids, tapes, insignia, etc. Looking ahead to 1942, it is expected that rayon's use in national defense products will expand materially.

"Since the demand for rayon yarn by manufacturers of products for civilian use was mainly responsible for sustaining the high level of rayon yarn deliveries, it is worth mentioning two principal factors contributing to this situation. First, the rapid expansion of industrial activity and the accompanying increase in consumer purchasing power resulted in greater rayon textile purchasing at retail. Second, with the freezing of all raw silk stocks in this country by Government action in August and the subsequent reservation of this silk for direct defense uses, it became the principal task of the rayon yarn industry under the Silk Substitution Program to supply the needs of former silk knitters and weavers with rayon yarn to replace raw silk.

"As already indicated above, rayon yarn deliveries in 1941 set a new record. On the basis of early estimates, 1941 rayon filament yarn deliveries exceeded those of the previous record year, 1940, by about 15 per cent. Stocks of rayon yarn in the hands of rayon producers were at an irreducible minimum throughout the year. At the close of the year, yarn stocks amounted to only about a two days' supply.

"Domestic rayon yarn production in 1941 also set a new record, based on preliminary reports. It is estimated that the 1941 production of rayon yarn was also approximately 15 per cent greater than the 1940 total.

Wool Price Ceilings Set At Those Prevailing Between October 1 and December 6

Revised Schedule To Be Issued Later; Substantial Cut in Wool for Civilian Use Predicted

Raw wool, wool tops and wool yarns must not be sold at prices higher than those which prevailed between October 1st and December 6, 1941, under the provisions of an emergency schedule issued December 18th, by Leon Henderson, Administratof of hte Office of Price Administration. The price schedule became effective on the date of issue.

This new ceiling schedule applies to all forms of selling —"futures" as well as "spots," but excludes retail sales of wool yarns. The OPA ceiling for wool top "futures" is set at $1.278 a lb. and for grease wool at 95.5c a lb. It was pointed out that while these prices are below those prevailing, the schedule allows completion of all "futures" contracts outstanding as of the close of trading December 17th at the contract prices. All other outstanding contracts in raw wool, wool tops and wool yarns may also be carried out at the contract price. Any contracts made hereafter in compliance with the provisions of the schedule may be carried out at the contract prices, irrespective of any changes in the price levels that may be made in the future. It was further pointed out that the current price action on wool is taken under emergency conditions and that a revision of the schedule would be made after studies now under way were completed.

The method for determining the ceiling prices is set forth in the schedule as follows:

1. The maximum price shall be the highest price contracted for or received by the seller for the sale or delivery during the period between October 1, 1941, and December 6, 1941, inclusive, of wool or wool tops or yarns of the same class, kind, type, condition and grade, to a purchaser of the same general class.
2. If, during said period, no such sale or delivery was made, the maximum price shall be the price contracted or received by the seller for the last sale or delivery made prior to October 1, 1941, of wool or wool tops or yarns of the same class, kind, type, condition and grade, to a purchaser of the same general class.
3. In all other cases, the maximum price shall be the highest market price during the said period of wool or wool tops or yarns of the same class, kind, type, condition and grade, to purchasers of the same general class.

Every person making sales of wool or wool tops or yarns after December 17th is required to keep certain records, make reports and file affirmations of compliance.

The term "wool" means the fibers from the fleece of the sheep or lamb, or hair of the Angora or Cashmere goat, or of the camel, alpaca, llama, and vicuna, and includes noils, wool waste, clips and rags and reworked wool of all grades and mixtures. "Wool tops" means tops made wholly or in part of wool, and "yarns" means yarns containing 10 per cent or more wool by fiber weight.

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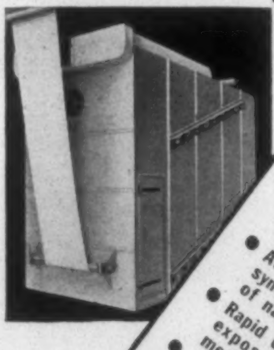

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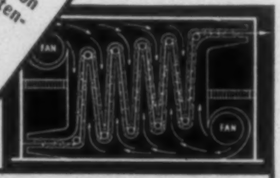

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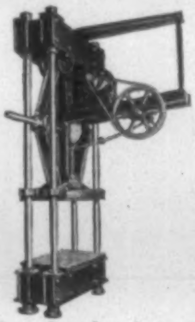

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Garrard Sees Higher Staple Cotton Prices

Greenwood, Miss.—Reporting a general disposition on the part of Delta growers to hold a portion of their crop for sale later in the season, General Manager W. M. Gerrard, of the Staple Cotton Co-operative Association, lists five reasons for anticipating higher prices. In his monthly report to the Association's board of directors he summarizes these as follows:

"In the first place, the total yield in the Delta is barely enough, if enough, to supply the mill trade for the remainder of the season.

"In the second place, we can visualize higher prices another year.

"In the third place, as we advance into the late spring and summer months, we anticipate a definite shortage in the better qualities of Delta cotton. With mills all occupied to capacity it will be extremely unusual if we do not have not only a higher basis but a higher future market as well.

"In the fourth place, the textile manufacturers, like many other manufacturers, may be required to operate seven days a week.

"In the fifth place, the parity price is gradually advancing. In the last report it was 17.73 cents, and no doubt, as the months pass, the parity price will continue to advance. Consequently, loan values another year will be higher than loan values this year. It is our thought that Congress will approve and pass legislation for loans next year on the basis of 85 per cent of parity. This of course will place a floor under the cotton market."

Although not foreseeing any material decline, Mr. Garrard thinks growers should sell theeir cotton on an advancing market.

"Furthermore, any material advance in price from the present level will result in a very handsome profit to the grower when he sells the remainder of the cotton he has on hand that was produced this year. While we consider present values sound, anything can happen under present world conditions."

Cotton Textile Merchants Organize To Speed War Effort

A special War Activities Committee has been appointed by the Association of Cotton Textile Merchants of New York to insure a maximum of vigorous and effective participation of this section of industry in the nation's war effort, it was announced December 23rd.

Personnel of the committee includes S. F. Dribben, of Cone Export & Commission Co., chairman; C. C. Baldwin, of Woodward, Baldwin & Co.; W. J. Gallon, of J. P. Stevens & Co.; J. C. Hughes, of McCampbell & Co.; G. M. Miller, of Turner Halsey Co.; A. Richard, of Pacific Mills; M. R. Reeves, of Reeves Bros.; R. J. Smith, of Southeastern Cottons; C. A. Sweet, of Wellington Sears Co.; D. B. Tansill, of Pepperell Mfg. Co., and W. Ray Bell, president of the Association, ex-officio.

The purposes of the War Activities Committee were explained in a statement of its chairman, Mr. Dribben. "While the cotton-textile market has already given the Army, the Navy, the OPM, the OPA, and other Government agencies a full measure of co-operation from the very beginning of the defense program eighteen months ago," he said, "we feel that the magnitude and gravity of the problems raised by the war call for redoubled effort on the part of all industry.

"The first thing our War Activities Committee intends to do is to make a quick but careful study of every aspect of the nation's war effort which affects or is affected by the cotton-textile market. We hope that such a study will enable us in the near future not merely to depend upon the Government to tell us how we can help, but to take the initiative ourselves in finding every possible way in which we can aid in bringing to bear the full force of this nation's unrivalled industrial resources.

"The cotton-textile industry is today producing for war and civilian needs at a rate close to 20 per cent higher than any previous record. Only the strong and sustained efforts of every section of the industry have made this achievements possible. Yet, despite present high production, many problems remain to be solved, and we hope to find how we may most effectively take our part in their solution—whether through co-operation with other sections of the industry, with agencies of the Government, or both."

Master Color Card Covers All Trades

The Standard Ninth Edition, a new master color card for all industries and trades, has been released by the Textile Color Card Association. It was emphasized that this was not a card presenting fashion colors for one season only, but that it embraced a complete collection of important staple shades having continued popular acceptance. While the shades in the card cover the color needs of all industries, any one industry may select as few colors as may be required for its own particular purpose, it was explained.

The preparation of this Standard Ninth Edition Card has required over two years of research. It represents 26 years of progress in color standardization undertaken by the association since the first standard edition was brought out during the last war in 1915 and revised from time to time, the eighth edition having appeared in 1928. The shades assembled in this new card were adopted by a majority vote of the association's members, representing practically every industry using color. To determine these color preferences, the association sent out thousands of questionnaires.

The manual portrays the shades in large fabric samples, mounted to show a dull as well as a shiny surface, thus enabling users to match brilliant, as well as mat surfaces. The majority of the colors have been repeated without change from the standard eighth edition, while a few colors from the latter edition were also adopted in modernized versions. A good number of colors have been incorporated from the association's seasonal cards, because through continued use they have assumed importance as staples and have been requested by the members. Some entirely new colors having broad commercial significance have also been added. The colors are arranged in harmonious gradations of six, three and two shades and there are also groups of individual pastels and brilliant tones.

Incorporated in the ninth edition are many official colors which have been standardized for various ses by the United States Government and leading industrial associations.

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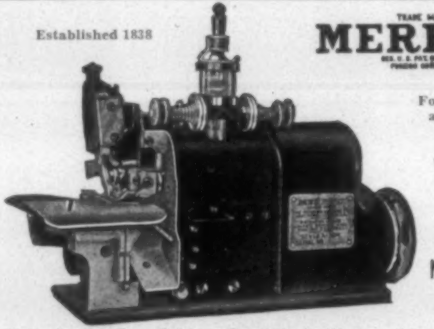

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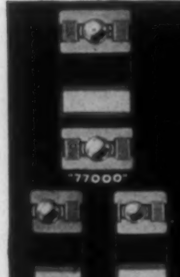

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NORMA-HOFFMANN BEARINGS CORPN - STAMFORD CONN USA

The Erie Plan of Industrial Conservation

(*Continued from Page 25*)

partment or plant or by some other department or plant in the district.

VI. At the same time that the mechanics of the foregoing organization plan were set in motion, the *executive committee* and the *sub-executive committee* prepared to be ready to serve in the following capacities:

A. Formulate instruction for those heading up the salvage activity.

B. Furnishing of technical advice:

1. To indicate the proper collection, segregation and disposal of scrap by classification into iron, steel, non-ferrous, etc.
2. To supply data pertaining to all Government regulations (OPM has set up control of the channelling of certain items of scrap, to-wit; aluminum, copper scrap, brass mill scrap, alloy steel, rubber and others.)
3. To list for purposes of channelling and assisting in the disposal of scrap all buyers, dealers, brokers or consumers of scrap, according to the classifications which are established.

   (Note: It was proposed only to list the local buyers, but the committee arranged to be able on request to furnish data to assist wherever necessary.)

4. To distribute OPM posters and general pamphlets of informative nature.

   (Note: This and other OPM activities are covered later in this outline.)

5. To enlist the support of local manufacturing, production and trade associations for the purpose of bringing to the attention of all classes of management the advantage accruing through such activity.
6. To extend the work of the committee as future developments require to follow up all phases of the campaign, and keep it alive, active and continuous.
7. To assemble and keep all records of scrap collected and salvaged by all plants, as reported by the latter, and evaluate the complete effort in a report to OPM.

VII. The *executive committee* and the *salvage managers group* further consigned to themselves the job of finding out and reporting for future guidance the answers to the following questions:

A. What considerations constitute the resistance to the extension of practices and procedures proven practical and profitable in certain organizations to other organizations apparently operating on a comparable basis?

B. To what extent can practices and procedures used by large concerns be adapted feasibly to plants of moderate and small size?

C. What is the reason, if any, for undue accumulation or sluggish movement of waste materials?

D. What are the possibilities, if any, of putting to use in other plants equipment considered obsolete in certain plants having more advanced production methods or of speeding obsolescence and scrapping of unused equipment?

E. What are the possibilities of utilizing in other plants, supplies considered obsolete?

F. What items of waste, if any, are difficult to dispose of either locally or nationally?

VIII. Following the activities in connection with the sponsoring of the initial meeting of executives by the OPM's Bureau of Industrial Conservation, the *executive committee* appointed a member to serve as liason contact with the Bureau's Industrial Salvage Section to secure all the information and assistance the section is prepared to furnish, to-wit:

A. Make available the services of a thoroughly experienced salvage engineer for consultation on specific problems as and if needed during the period of the program.

B. Supply speakers and salvage consultants for important meetings.

C. Serve as a clearing house for information on plans and procedures which have proven practical and profitable in other industries.

D. Arrange for a system of awards to be provided by the Bureau.

E. Supply posters, displays, notices, cartoons, press releases and other publicity.

(Note: To date one large 2-color poster headed, "Get in the Scrap," has been produced and will be available to all industries throughout the country participating in salvage programs. Three other posters to be used in the continuation of the work are in production.)

For copies of the Erie Plan of Industrial Conservation and all other information, write OPM Bureau of Industrial Conservation, Washington, D. C.

Freedom of Speech Restored

In a 7 to 0 decision, which is considered to be a major interpretation of the Wagner Act, the U. S. Supreme Court has ruled that an employer may speak his mind freely on labor issues, provided his utterances are not part of a plan to coerce his workers in violation of the act.

The opinion asserted that the act does not enjoin an employer from expressing his "view on labor policies or problems."

The court, however, left an opening of which a prejudiced labor board may be able to take advantage when it said that the board in deciding whether a company had interfered with the rights of employees "may look at what the company has said as well as what it has done."

In effect, the present U. S. Supreme Court, which is now to be in favor of doing anything it can to industry, said to the Labor Board: "We feel obligated to uphold freedom of speech, but you can make your own interpretation of any remarks which management makes to employees."

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Developed to meet the need for even-running, better knitting yarns, Laurel Emulsions properly condition and soften carded and combed yarns, mercerized, dyed and bleached yarns . . . speed up twist-setting, give you proper regain and better knitting quality. Easy to apply over roller troughs on cone winders, quilling frames or twisters. Laurel Emulsions—favorites for nearly two decades with leading spinners, converters and knitters.

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Cannon Mills Service Club Now Over 1,000 Strong

Kannapolis, N. C.—More than a thousand Cannon Mills Co. employees representing nine Carolina towns gathered for the fifth annual "Loyalty Banquet," held in December, at which Charles A. Cannon, company president, was host.

Each of the thousand has 25 years or more continuous service in the Cannon Mills organization and 227 of them received service emblems denoting 25, 35 and 45 years of continuous service with the company. They represented the group that passed the respective age limits during the past year. The others had previously received such emblems at similar Loyalty parties in the series that began in 1937.

Governor J. Melville Broughton was the main speaker, continuing a line of distinguished personages that have addressed loyal Cannon workers at these December parties for the past five years. Last year's speaker was Governor Clyde R. Hoey.

Charles Cannon presided at the banquet table and personally presented each incoming member of the Loyalty Club with the Cannon service emblem—a gold lapel button suitably inscribed.

Two persons—J. W. Honeycutt, of Concord, and John Murphy, of Kannapolis—received 45-year pins, thus joining an exclusive group that now numbers 11. Miss Pink Faggart, Concord woman, who takes pride in having taught A. L. Brown, present general manager of the company, how to weave when he first entered the textile business, is dean of the 45-year group. She has been with the company more than 50 years, having started when James W. Cannon's first plant in Concord was a tiny, struggling enterprise.

She and other veterans, including C. W. Freeze and J. I. Freeze, of Concord, had places of special honor in the banquet hall.

Twenty-four received 35-year pins and 201 were awarded 25-year emblems.

With each service button awarded went a life insurance policy arranged and paid for by Cannon Mills Co. Each of the 1,000 or more employees who have a quarter-century or more service to their credit have similar policies.

Other officials of the company who served as co-hosts included J. J. Barnhardt, vice-president; A. L. Brown, vice-president and general manager; A. W. Fisher, vice-president; Hearne Swink, secretary; E. Gray Bost, treasurer.

World's Biggest Fluorescent Lamp Installation

The world's biggest single fluorescent lamp installation in the new $47,000,000 Ford bomber plant near Ypsilanti, Mich., has been announced by W. E. Poor, executive vice-president of the Hygrade Sylvania Corp., with head offices at 500 Fifth avenue.

The installation is now underway, Mr. Poor said, and when completed the lamps will furnish enough simulated daylight to enable the entire population of Emporia, Kan., to read a newspaper. Likewise it would thus sufficiently light up the whole lower end of Manhattan, from the

Battery to Houston street, or ten times the area of Chicago's famed "Loop."

Approximately 156,000 lamps are being installed, Mr. Poor said. The power the total lamps will consume would light every home in Columbus, Ohio (population 280,000).

This is the largest single fluorescent lamp lighting installation in the history of the industry, which began in 1938 with a sale of some 200,000 lamps. The sales figure jumped to 1,500,000 in 1939 and to 7,500,000 in 1940.

Calco Offers Calcochrome Yellow NFC

Calco Chemical Division of the American Cyanamid Co. announces a new dyestuff called Calcochrome Yellow NFC. It is a chrome yellow especially recommended for use in formulations for the standard Government shades on wool.

The outstanding characteristics of this color are said to be its fastness to carbonizing, excellent fastness to light and very level dyeing properties. The degree of these characteristics is claimed as well within the limitations specified for Government use.

Packaging of War Materials Featured in Acme Steel House Organ

How manufacturers meet the essential strapping specifications on Government contracts is well illustrated and described in the current issue of *Acme Process News*. Identified as "No. 5," this house organ of Acme Steel Co., Chicago steel strapping producer, shows the effective packaging of such diversified items as army comforters, steel scrap, KD defense houses, orange juice, airplanes, barracks, etc. Also included is an article on the York Plan of production co-operation. Copies of this and succeeding issues of *Acme Process News* can be obtained direct (without obligation) from Acme Steel Co., 2840 Archer Ave., Chicago.

Army Will Occasionally Buy Cloth "Seconds"

The Army will occasionally buy cloth "seconds" under certain special conditions where the purchase will not interfere with the serviceability of the garments to be made from this cloth, the War Department has announced. The idea is to help the clothing trade dispose of their seconds and meet deliveries when unusual speed is required.

The Philadelphia Quartermaster Depot has forwarded to the Office of the Quartermaster General in Washington several samples of mackinaw coats made with wind-resistant poplin which contained weaving imperfections such as broken picks, streaks and bars in the filling. Because of the shortage of material for this garment, the Office of the Quartermaster General has authorized the use of this cloth, which is classified as "seconds," since it does not affect the quality of the garment. Authority will be granted for acceptance not to exceed 10 per cent of the "seconds" on contracts and a discount of 15 per cent in the contract price. In this way it will be possible to obtain a substantial increase in production of mackinaw coats.

10,000 R. P. M. and More . . .

Faster . . and . . Faster the Textile Industry is turning on the heat!

But, lest 'haste make waste,' precision manufacture must continue to govern the quality of product.

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Business Men Urged To Set Up Payroll Allotment Plan for Employee Purchase of Defense Bonds

The Secretary of the Treasury has addressed a letter to all business men of America, urging that they institute and administer, with the co-operation of their employees, a payroll allotment plan whereby each employee may voluntarily direct a portion of his pay to be set aside and accumulated for the purchase of Defense Savings Bonds.

The letter from Mr. Morgenthau is reproduced in full below and manufacturers may get in touch with their local Defense Savings Committees for any assistance they may need in setting up and presenting the plan to their workers.

TREASURY DEPARTMENT
Washington

BUSINESS MEN OF AMERICA:

Overnight we have become a united people, an awakened people—wide awake to the stark truth that the very existence of the Nation and the lives, liberties, and fortunes of all of us are being put to a supreme test. In this hour of crisis Americans are working together, as never before in our history, toward a victory that will make certain that international treachery and attack without warning shall never endanger us again. It goes without saying that materials and money will be produced and expended in vast quantities before that victory is assured.

The present machinery for raising a substantial portion of the money to be expended—i.e., the Defense Savings Program—already has enabled the American people to contribute over two billion dollars to the production of war materials and at the same time to add to their own personal security. The immediate need is to extend that machinery, so that everyone may purchase Defense Savings Bonds and Stamps, regularly and conveniently, to the best of their abilities.

A large number of American business concerns have instituted and are administering with the co-operation of their employees, a payroll allotment plan whereby each employee may voluntarily direct a portion of his pay to be set aside and accumulated for the purchase of Defense Savings Bond.

The Treasury Department now asks that every American business concern institute similar machinery, where practicable, as one of its principal contributions to the war effort.

The payroll allotment plan for the purchase of Defense Savings Bonds provides an effective way for you and your employees to march together against a common enemy—an enemy which seeks to destroy free enterprise throughout the world.

In this plan you provide the machinery—your employees provide the money.

Since the success of the plan is dependent upon enthusiastic and informed participation by your employees, it is urgently suggested that you take this matter up with your employees through your customary channels of communication with them. Thus, you will be assured that they understand and endorse the terms of the plan. Most labor organizations have already given a general endorsement to the payroll allotment method of purchasing Defense Savings Bonds.

Although this is your and your employees' plan when it is put into effect, the Treasury Department is ready to give every assistance. There are local Defense Savings Committees in the forty-eight States. Experienced men on those committees are ready to help you in instituting and encouraging participation in the plan. You are not only invited, but urged to call on them for help.

Very truly yours,
(Signed) H. MORGENTHAU, JR.,
Secretary of the Treasury.

How Is Business?

Two business men met on the street. One of them asked of the other:

"Well, how is business?"

"Very much better," was the reply.

"Very much better than what?" he was asked.

"Very much better this year than it will be next."

PICKER APRONS
NEW AND REBUILT

We suggest that you have your aprons either replaced or repaired now. Copper rivets, burrs, steel spikes and pins are harder to get each week, so telephone, wire or write us your needs. Ship your aprons to us for repair. Our motto, "Better Built Picker Aprons" guarantees your satisfaction.

C. L. Upchurch & Sons, Inc.

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Athens, Ga.

New Restrictions Hit Woolen Mills

The OPM told woolen manufacturers recently that their supply of new wool for non-military production—including suits, dresses, other clothing and rugs—would be restricted during the next three months to half or less the amount they used during the same period in 1941.

Robert R. Guthrie, chief of the OPM textile branch, informed an industry advisory committee meeting that an allocation order would be issued soon embodying these four restrictions:

1. Manufacturers of worsteds will be cut to 50 per cent of their 1941 use of wool for a similar period.

2. Manufacturers of woolens will be cut to 40 per cent.

3. Manufacturers of floor coverings will be limited to 50 per cent of the carpet wool they used during the same period this year.

4. All other manufactures systems using wool will be cut to 40 per cent.

Mr. Guthrie said the over-all program to conserve available wool supplies projected a rate of new wool consumption which would, if continued through the entire year, cut supplies to the industry by about 200,000,000 pounds. The rate of consumption allowed during the next three months will be restricted to 80 per cent of the rate prevailing during the first six months of 1941.

This 80 per cent production, officials said, would include both military and non-military uses. Military requirements, however, will be met in full. Mr. Guthrie said that production over 80 per cent would be permitted only if the entire output of a mill was for military orders.

Commenting that the program was more liberal than experts originally had thought possible, he added that "there are so many uncertainties regarding wool deliveries that it would be unfair to lead any of you to believe that this liberal allocation can continue throughout the year. In fact, there is a very strong possibility that it won't continue."

Philadelphia QM Depot Buys $427,760,092 in Six Months—Jones Promoted

Philadelphia, Pa.—During the last six months the total procurement directives placed with the Philadelphia Quartermaster Depot for textiles, garments, equipage and related items amounted to $427,760,092. This compares with total actual purchases of 565 million dollars by the local Army depot for the complete fiscal year which ended last June 30th.

The figures for the first half of the current fiscal year were released at the depot in connection with announcement by the War Department of the promotion of Lieut. Col. Thomas W. Jones to the temporary rank of colonel in the Quartermaster Corps.

As the chief purchasing executive of the depot, which is the world's largest single customer for textiles and allied products, Colonel Jones is widely known in this industry.

His military service began as a captain of Field Artillery with the A. E. F. in 1917-1928 and with the American Army of Occupation in Germany from 1919 to 1922. His decorations include the Purple Heart, Victory Medal, Five-Battle Clasps and the French Fourragere de la Croix de Guerre with Palm.

Colonel Jones is a native of Georgia. He has been contracting officer in Philadelphia for three years.

Spindale Foreman's Club Meets

The Spindale Mills Foreman's Club held its regular monthly meeting Saturday evening, January 10th, at the Spindle Community House. After a most enjoyable dinner, a Factory Mutual Fire Insurance film, "How Fires Start in Industry," was shown. The members were then addressed by A. G. Heinsohn, Jr., president of Spindale Mills, Inc., Spindale, N. C., and vice-president and general manager of Cherokee Spinning Co., Knoxville, Tenn.

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Assistant Superintendent mill located in Piedmont section. Prefer textile graduate.

Address reply "B," c/o Textile Bulletin.

Humidifier System For Sale

Due to adding gas heating tubes to our printing presses, we no longer have need of our humidifying system and wish to sell same. It is a 5-head system which had been in use prior our purchase.

CLARK PUBLISHING CO.,
218 W. Morehead St.,
Charlotte, N. C.

Dallas Mfg. Co. Net Profit $281,554

Dallas Mfg. Co. reports net profit of $281,554 for the year ended Sept. 30, 1941, after depreciation and provision for Federal and State income taxes. Profit before depreciation and taxes amounted to $531,804.

Balance sheet as of Sept. 30, 1941, shows total current assets of $597,942 and total current liabilities of $261,180.

Linen Replaced By Rayon Fiber

Flax for making linen, which formerly was imported from Russia, Belgium and other European countries, is now being replaced to a considerable extent by domestically produced rayon staple fiber which is made into spun rayon yarn and then woven into linen-type fabrics of numerous varieties, the American Viscose Corp. stated January 13th. Linen-type fabrics made of spun rayon are now used in large volume in handkerchiefs, tablecloths, napkins, draperies and slip covers; in men's sportswear; and in women's dresses, summer coats, suits, jackets, blouses, playclothes and beachwear.

Chatham Blanket All-Wool Fall Line Canceled

New York.—Chatham Mfg. Co., largest maker of all-wool blankets, has cancelled its scheduled opening of a fall line planned for January 15th and notified salesmen it would offer only a limited line of part-wool numbers at that time.

Trade circles indicated that offerings of wool blankets to retailers for next fall and winter might almost cease.

At that time, they said, all that might be available would be sample amounts already made up before the recent wool conservation order of the OPM, and such numbers as may be produced by small companies whose wool allotments are not tied up on government contracts.

Classified Department

Southern Standard Mill Supply Co.

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Cotton Fiber Testing Service

(*Continued from Page 14*)

microns, circularity ratio, and wall thickness are calculated.

In these calculations the "diameter" of a fiber is assumed to be one-half the sum of the long axis and the short axis of the fiber cross section. The circularity ratio is the ratio of the long axis to the short axis of the fiber, and the wall thickness is one-half the difference of the over-all width less the lumen width.

These measurements, and their coefficients of variation, provide a picture of the cross-sectional characteristics not obtainable in any other way.

(7) *Cellulose Alignment* (*X-ray*): Each specimen to be measured is first prepared in much the same way as the Chandler bundle. (See discussion on page 12.) The bundle is then placed under tension in a camera attached to the X-ray machine, and the X-ray diffraction pattern recorded on a photographic film. With the use of a microphotometer of special design, an angular measure is obtained of a portion of the arc diffracted from the 002 spacing in the crystal. This angle is an index of the average angle between the long axis of the cellulose molecules in the crystal and that of the fiber.

The angle of the cellulose molecules has been found to be correlated with the strength of the undamaged fiber. Thus, even though a cotton may have been damaged by fungi or light during exposure in the field, the X-ray angle provides an indication of the probable strength of the fiber before the damage occurred. It has been found, however, that conditions with respect to temperature and moisture during certain periods of the growth of the fiber also have an important influence on the angle of cellulose molecule alignment.

An average angle of about 34 degrees has been found for a large number of American upland cottons. An angle of 32 degrees indicates very good strength; below 31 degrees, excellent strength. An angle of 38 degrees or more indicates poor strength.

(*Continued in next issue*)

Bumper and Check-Strap Hints

(*Continued from Page 18*)

tion for its preference arises in the following manner. During the course of weaving operations, some weavers wipe the spindle with oil in order to prevent the rawhide picker sticking. This oil gradually heats up on the hot spindle and in a short time the rubber strap is made useless. It is better to avoid lubricating the spindle rods, for temperatures that burn up the oil will likewise burn up the rubber surfaces contacting the rod.

Still another 2-hole strap is the "hairy" strap shown in Figure 3. This type also comes in various brands and tanned under various methods. For practically any purpose, the "hairy" straps are tops. Take one of these straps on its arrival at the mill and bend it to the U-shape for placing on the spindle. It will be difficult to bend, but once in place it will undergo the toughest pounding and last for months. Even after the reinforced ends are worn out, new pieces can be stitched or riveted over the ends, creating a new strap from an old one.

In fact, all bumper straps with reinforced ends can be patched up for further use if the reinforcement wears away before the body of the strap is made lifeless. Some of these ends are put together with rivets and bolts as previously explained, while other methods make use of rawhide or wooden pins. In many instances, the ends have the reinforced patches both inside and outside on each end. These patches, when torn or damaged, can be pulled off with pliers or cut off with a hacksaw. New patches are cut from discarded straps and riveted into place to prolong the usefulness of an otherwise wornout strap.

(*To be continued*)

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1942 To Top 1941 Record Year in Cotton Textile Production

The cotton textile industry enters the new year with its productive equipment operating at the highest rate in history and with every prospect that the record-breaking output achieved in 1941 will be exceeded in the next twelve months, according to Dr. C. T. Murchison, president of The Cotton-Textile Institute.

In a year-end statement issued recently Dr. Murchison stated: "American cotton mills in the year just ended consumed more than ten million bales of cotton and produced approximately twelve billion yards of cloth. In normal years a consumption of 6,000,000 to 7,000,000 bales is considered good. During World War One mills consumed on an average of 6,500,000 bales per annum. At that time the industry had about ten million more spindles than it now possesses so that the strain placed on machinery in achieving the current abnormal rate of production can be readily seen.

"About 20 per cent of the 1941 output of cotton goods went into strictly military channels while another 20 per cent was taken up by that section of our industrial establishment which is engaged in the main in forging the instruments of war. The remainder went into the customary 1200 and more uses for cotton products, many of which have assumed a wartime aspect in recent weeks.

"While it is hard to predict with any certainty what the new year will bring in the way of new demands for the products of the cotton industry, one thing is sure and that is that every yard produced will quickly find its way into consumption. Military, naval and air force requirements are likely to double or treble while the amount of cotton materials required by heavy industry for processing metals, chemicals, rubber and other essential war requirements will be greatly in excess of those for 1941.

"The reduction in imports of silk jute, wood and flax products has created broad new outlets for cotton goods which the industry finds difficult to serve because of the abnormal demand for its products for military, industrial and civilian uses. Right now consumers are buying blackout cloth in large amounts and there is a brisk call for substantial quantities of cotton fabrics for use in sandbags.

"Supplies of cotton goods for civilian purposes will be determined largely by the amounts required for prosecution of the war and civilian defense. These, of course, will continue to take precedence over normal peacetime requirements. If mills, however, continue to step up production there should be no dire shortages of the fabrics which consumers need. Indications are that mills shortly will be consuming cotton at the rate of a million bales a month. Some plants are operating 168 hours a week and others are attempting to organize extra shifts but have not met with much success because of the scarcity of skilled help.

"The industry over the next few months is likely to find the shift from a defense to an actual wartime basis as abrupt and as complicated as the change eighteen months ago from peacetime to rearmament. No matter how difficult the problems facing the industry during the year may be, it is certain that the industry's contribution to prosecution of the war will be every bit as noteworthy as its contribution to the defense program."

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A New Handbook By Steel Heddle

"Lock Hooks and Their Place in a Loom Frame . . . Types—Requirements—Use—Care—Selection and Maintenance" is the title of a handbook just issued by the Steel Heddle Mfg. Co., general offices and plant, 2100 W. Allegheny Avenue, Philadelphia, Pa., and other plants in Greenville, S. C., Atlanta, Ga., and Montreal, Canada.

It is possibly the first real treatise ever written on the subject of this small but very important item of the frame. The subjects of the various chapters cover "The Real Importance or Value of the Lock Hook to the Mill Owner, Superintendent, Overseer of Weaving, Loom Fixer and Weaver; The Dangers of Buying on Price or What You Honestly Are Doing to Your Company When You Buy on This Basis; Factors To Be Considered in the selection of a Lock Hook; Lock Hooks at a Glance—Types, Sizes and Characteristics; Desirable and Essential Attributes of a Lock Hook; Lock Hooks vs. Studs; Frame Troubles and Their Cures; Importance of Careful and Systematic Inspection of Frames; and It Is So Easy to Select the Proper Hook."

A copy will be sent free to any one connected with a textile mill if he will request and address the Steel Heddle Mfg. Co., 2100 W. Allegheny Avenue, Philadelphia, Pa., on a letterhead of the mill with which he is connected.

New Office Building for E. F. Houghton & Co.

To mark the completion of its new, ultra-modern office building, E. F. Houghton & Co., manufacturers of oils, leathers and metal working products, Philadelphia, held "open house" for stockholders and customers on December 11th.

This three-story structure, combining all modern features including glass-block construction and air conditioning, was erected at Third, Orianna and Lehigh avenue, adjoining the company's plant. Its completion, according to announcement made by Maj. A. E. Carpenter, president, represents only a part of the company's expansion program to take care of added direct and indirect defense work.

Added facilities to increase production of leather packings, made necessary by great growth of hydraulic controls in aircraft and machine tools, have also been provided in recent months. Enlarged shipping facilities and an increase in its carburizer and oil department have also been effected in an effort to keep pace with the demand for cutting, quenching and lubricating oils, heat treating and metal working products so urgently needed in the present emergency.

Overtime Pay in Defense Bonds and Stamps Meets Wage-Hour Requirements

Deductions made for the purchase of defense stamps or bonds, when authorized by the employee, are recognized as legal deductions under the Fair Labor Standards Act, Acting Administrator Baird Snyder of the Wage and Hour Division, U. S. Department of Labor, announced. Many inquiries had come from employers as increasing numbers of workers arranged for purchase of defense bonds during the last week.

"Employees are urged to give serious consideration to a plan under which they can allot their overtime pay to be put into defense bonds and stamps," Mr. Snyder said. "Various kinds of these allotment plans are now being worked out by A. F. of L. and C. I. O. unions in different parts of the country among workers engaged in production for victory, and this program appears to be spreading rapidly."

Where deductions are made for defense bonds, they must be the amount actually paid for the bonds and not the face value of the bonds. These deductions are sanctioned inasmuch as they fit the requirement under the law that such transactions involve no profit for the employer or anyone connected with him and are made at the voluntary direction of the employee concerned.

Thirty-One Unemployment Benefit Claimants Are Punished for Fraud

Thirty-one claimants for unemployment benefits have been tried and convicted in local courts in North Carolina in recent weeks on charges of making false statements in their claims and thus securing benefits to which they were not entitled from the State Unemployment Compensation Fund.

Many of the city and county courts hearing these cases stipulate in the judgments that the defendants must repay the amount illegally drawn or suspend judgment on condition of repayment. The amount refunded to the State fund through last month by order of these courts was $6,378.18. In many of the cases handled, the falsified reports are found months and even a year or more after the offense has been committed.

Disposition of cases tried in recent weeks follow:

Greensboro City Court—Nine defendants tried for failing to report proper earnings were each sentenced to four months on the roads, judgment suspended upon condition that they repay the commission the amount overdrawn by a definite date and pay the costs. The amounts to be returned were $28.00, $58.50, $12.00, $21.00, $11.00, $15.00, $12.00, $21.00, and $12.00.

High Point City Court—One claimant ordered to repay $30 at $5 a week; two others were ordered to repay amounts illegally drawn.

Person County Recorder's Court—In each of three cases, defendants were sentenced to 30 days on the roads, suspended on repayment of amounts overdrawn and the costs.

Lumberton Recorder's Court—Two defendants were sentenced to 20 days on roads, suspended on payment of $20 and costs; case against a woman was nol prossed with leave because of pregnancy.

Wilson Police Court—Four defendants were fined $20 and costs each.

Greenville Police Court—Each of five defendants was sentenced to 30 days on roads, suspended on payment of $20 and costs.

Washington County Recorder's Court — Defendant fined $25 and costs.

Rocky Mount Police Court—Defendant sentenced to 30 days on the roads.

Raleigh City Court—Defendant sentenced to 30 days on the roads.

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Desperate Need for Wool Adds To German Woe in Russia

New York.—The lowly sheep, symbol of peace and good will, is playing a vitally important role in the disastrous retreat of the German armies in Russia, the American Wool Council declares in a statement analyzing world wool supplies. The grim situation in which Germany finds herself reveals German troops in Russia freezing by the tens of thousands, says the Council. Hospitals in Germany and in countries allied with her are filled with soldiers who have lost arms or legs or both in bitter subzero weather. Behind the military forces are shivering, inadequately clothed civilians, not only in Germany but in all parts of conquered and ravaged Europe. The condition is strikingly similar to that which existed during the winter of 1918, and which contributed materially to Germany's surrender.

"The desperate lack of wool for clothing for German troops in Russia acknowledged a few days ago by the almost frantic appeals to the people by Hitler and Goebbels to contribute every possible shred of woolen clothing for their use can only grow worse as time elapses. It cannot possibly improve or even remain static," the Council declares.

"The world's wool supplies are held firmly by North and South America and Great Britain. Over 90 per cent of all the wool in the world is grown in Australasia, South Africa, and North and South America. Since the outbreak of the war, Germany has had access only to supplies of raw wool which she accumulated in peace time by sharp barter deals. Her supply of raw wool has long since been exhausted. The supplies of wool clothing, blankets, underwear, socks, mufflers, and mittens seized in the conquered countries are entirely inadequate. Increasingly strict rationing and the use of "ersatz" fibers in all clothing in Germany has resulted in the practical disappearance of really warm garments among civilians.

"Germany's wool reserves at the outset of the war amounted to some 500 million pounds and an unknown quantity of uniform materials. For ten years prior to the war, German textile manufacturers were forbidden by law to produce materials of pure wool except for export. This measure was adopted in order to conserve foreeign exchange as Germany is independent upon British and South American wool for her great textile industry. Materials manufactured for civilian use were a mixture of wool and "ersatz" fibers known as "wolstra" and "vistra." In promoting the use of these synthetic fibers, the German government endowed them with almost sublime qualities. William L. Shirer, the well-known radio commentator, dismisses their warmth and wear values with the succinct comment that they are 'nothing but paper after all.'

"At the outbreak of the war, the German army private's uniform contained 70 per cent wool and 30 per cent ersatz substitute. Officers' uniforms consisted of 90 per cent wool. As the war continued and the shortage of wool has become more acute, the wool content of German army uniforms has decreased and their serviceability and protective qualities have diminished correspondingly.

"Germany earily realized her desperate need to augment wool supplies. She has conducted an organized looting of the wool supplies of conquered and occupied countries which has left the larger part of Europe's people shivering. With Teutonic thoroughness, Hitler's soldiers made house-to-house canvasses requiring people to deliver up, under severe penalties for failure, wool garments including knitted sweaters, blankets and socks. This practice was especially vicious in Norway where it is reported that the Germans looted approximately all of the 442,000 households in Norway, obtaining approximately 3,500,000 blankets and an unknown quantity of sweaters, sheepskin coats, underwear and socks.

"Some idea of the vast quantity of wool which is necessary to clothe an army is indicated by the amount of wool required to clothe an American soldier to fight in winter climates such as those that prevail in our own Northwestern States. Each American soldier for each year of fighting requires for his uniform and necessary replacements, 279 pounds of wool.

"The Quartermaster's Department of the Army in 1941 bought uniform materials for an army of 1,200,000 men. They required 340,000,000 pounds of wool, equal to 90 per cent of the entire wool clip of the United States. For 1942, a proposed army of 4,000,000 men is expected to require a minimum of 1,250,000,000 pounds of wool, or about one-third more wool than is produced annually in all of North and South America. To properly clothe the American public in 1942, even on a ration basis, will require at least 200,000,000 pounds of wool. Even with the world's wool supply available, the United States and her Allies will be obliged to ration civilian consumption of wool in order to meet her military requirements. Germany, on the other hand, unless she becomes master of the Pacific and of Australasia, cannot possibly hope to properly clothe her troops either for the balance of this winter in Russia, or for the winter of 1942. Neither can she relieve in any way the increasing distress of her insufficiently clad civilian population or of her victims in the conquered countries."

Chlorine Produced in U. S. Subject To Allocation Feb. 1

Washington, D. C.—All chlorine produced in the United States will be subject to direct allocation after February 1, 1942, in accordance with the terms of an amendment to General Preference Order M-19 issued by the director of priorities.

Regardless of priority ratings, no producer of chlorine may accept orders after the 10th day of any month for delivery in the next calendar month without a specific direction from the director of priorities. No distributor of chlorine may accept orders after the fifth day of any month for delivery in the following month without specific direction from the director of priorities.

All producers of chlorine are required to file with the Chemicals Branch of the Office of Production Management in Washington, on or before the 15th of each month, on Form PD-191, a schedule of deliveries to be made the following month.

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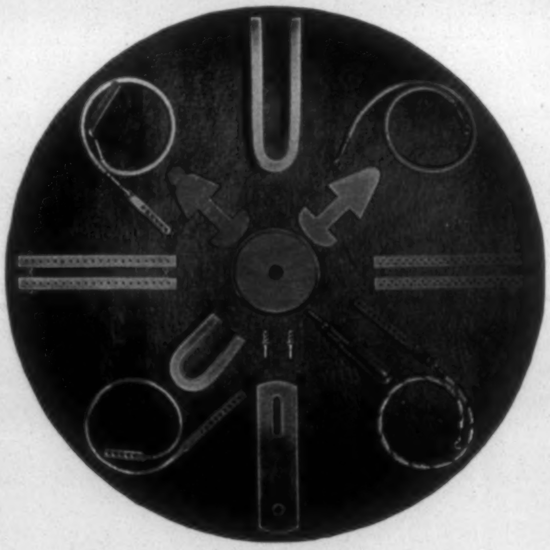

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